
SEPARATOR


54-00068


HAZ WASTE


COMPLIANCE


11/15/1993


LIS-118


9545627

C-File

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
PHONE: (501) 562-6533
FAX: (501) 562-2541

November 15, 1993

CSN: 54-0068
PERMIT NO #
HAZARDOUS WASTE-SORT:
PERMIT/COMPLIANCE/SUPERFUNDS

Mr. John Wagner
Environmental Engineer
Cedar Chemical Company
West Helena Plant
West Helena, AR 72390

RE: Quarterly Progress Reports

Dear Mr. Wagner:

The Consent Administrative Order (CAO) LIS-118 entered into between the Arkansas Department of Pollution Control and Ecology (ADPC&E) and the Cedar Chemical Company requires quarterly progress reports in Task V, Paragraph B of the Scope of Work. The last quarterly report received by ADPC&E concerning the CAO was on June 11, 1993. Cedar Chemical is in violation of the CAO for failure to submit quarterly reports. Cedar must submit all required quarterly reports within ten (10) days of the receipt of this letter.

Sincerely,

Joseph M. Hoover,
Manager, Enforcement Branch
Hazardous Waste Division

PWM:cedarltr

CC: Phillip Murphy, HWD
Jerry Williams, HWD
David Hartley, HWD
Pat Crossley, Legal
Allen T. Malone, Apperson, Crump, Duzane & Maxwell

Pg. 1

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

October 8, 1993

Mr. Joe Hoover
Enforcement Branch Manager
Hazardous Waste Division
Arkansas Department of Pollution Control & Ecology
P.O. Box 8913
Little Rock, Arkansas 72219-8913

Re: Facility Investigation Progress Report - Third Quarter 1993

Dear Mr. Hoover:

In accordance with Consent Administrative Order (CAO) LIS 91-118, Task V:B of the Scope of Work for a Facility Investigation, this progress report is submitted for the third quarter of 1993.

At the meeting in your office on July 7, approval was given to Cedar's Facility Investigation Work Plan. Site preparation/field activity began on August 23, and was completed for all sites, including the dinoseb holding ponds, on October 1.

All data was submitted to the laboratory as it became available, but we have not yet received results back.

Sincerely,

John Wagner

cc: Mr. Randal Oberlag, Legal Department, ADPC&E
Mr. Ronnie Lanier, NPDES Enforcement, ADPC&E
Mr. Randal Tomblin, Organics Division President, Cedar
Mr. David Hoppel, Plant Manager, Cedar
Mr. Allen Malone, Attorney, Cedar

#11 BH
OCT 14 1993

Joe

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

October 8, 1993

Mr. Ronnie Lanier
Enforcement Engineer
NPDES Enforcement Section
Arkansas Department of Pollution Control & Ecology
P.O. Box 8913
Little Rock, Arkansas 72219-8913

Re: NPDES Consent Administrative Order Progress Report - Third Quarter 1993 (Task 18)

Dear Mr. Lanier:

In accordance with Consent Administrative Order (CAO) LIS 92-198, Item 6 of the Order and Agreement Section, this progress report is submitted for the third quarter of 1993.

The following sequence of events occurred during this period:

1. July 29 - Approval of Stormwater Retention Project received from PC&E.

2. July 30 - Completion of the removal of a large portion of the underground wastewater line to an overhead piperack.

3. August 31 - Phase I plans and specifications submitted for Task 16 (Wastewater Treatment Plant Upgrade).

4. September 13 - Extension granted for submittal of Phase II of Task 16.

5. September 30 - Abandoned Outfall 001 (stormwater).

The testing of the effectiveness of Hydrogen Peroxide to pre-treat our DCA wastewater stream is ongoing in the laboratory. This stream appears to be the most significant contributor to toxicity at outfall 002, and preliminary tests have been quite successful in reducing its toxicity. This is Phase II of the Wastewater Treatment Plant Upgrade. Further information on this will be submitted in the Progress Report due October 29.

#15 BH
OCT 11 1993

Sincerely,

John Wagner

cc: Mr. Randal Oberlag, Legal Department, ADPC&E
Mr. Joe Hoover, Hazardous Waste Enforcement, ADPC&E
Mr. Randal Tomblin, Organics Division President, Cedar
Mr. David Hoppel, Plant Manager, Cedar
Mr. Allen Malone, Attorney, Cedar
Mr. Bruce Shackleford, Consultant, ECO Inc.

Joe

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

October 1, 1993

Mr. Joe Williford
Manager, NPDES Enforcement Branch
Arkansas Department of Pollution Control & Ecology
P.O. Box 8913
Little Rock, AR 72219-8913

Re: Abandonment of Outfall 001 (Stormwater)

Dear Mr. Williford:

As of this date, and as per Task 17 of the Corrective Action Schedule, Cedar Chemical has officially abandoned our one stormwater discharge point (outfall 001). We have not discharged from the outfall since mid-May.

All stormwater will now be contained within the boundary of the industrial facility and pumped to our biotreatment system.

Minor finish construction will be completed next week, but this will not affect our ability to contain a 25-year, 24-hour storm event.

Please call if you have any questions.

Sincerely,

John Wagner

cc: Mr. Randal Oberlag, ADPC&E Legal
Mr. Joe Hoover, ADPC&E Hazardous Waste
Mr. Randal Tomblin, Organics Division President, Cedar
Mr. Dave Hoppel, Plant Manager, Cedar
Mr. Allen Malone, Attorney, Cedar

EXHIBIT 4

OCT 07 1993

54-0068 Permit No. .....
CSN .....
Media: Air, Water, Solid, Hazardous
Sort: Permit, Compliance
C-file

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
PHONE: (501) 562-6533
FAX: (501) 562-2541

July 29, 1993

Alan Malone, Attorney
Apperson, Crump, Duzane & Maxwell Law Offices
Suite 2110
One Commerce Square
Memphis, Tennessee 38103-2519

Re: Cedar Chemical Corporation West Helena Plant
CAO LIS No. 91-118

Dear Alan:

Attached are photocopies of the file that you requested in our July 7, 1993, meeting. I have stapled the copies together as they were in the archive file. The archive files are in my possession and will remain so during the interim. If you desire to view these files again, please coordinate through me.

If I can be of further assistance, call me at 570-2890.

Sincerely,

David Hartley
Senior Geologist
Hazardous Waste Division

DH:ce cedar.729

Attachments

cc: Joe Hoover, HWD
Randal Oberlag, Legal Division

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

July 23, 1993

James Shumate
Enforcement Branch Inspector
Hazardous Waste Division
Arkansas Department of Pollution Control and Ecology
P.O. Box 8913
Little Rock, Arkansas 72219-8913

Re: Compliance Inspection Evaluation Response

Dear Mr. Shumate:

This is the written report of corrective actions, submitted in response to your inspection report dated June 17, 1993, and received by Cedar Chemical on June 30.

Item 1 - Failure to determine if a solid waste is a hazardous waste.

Laboratory data is enclosed for the analysis of the DCA (p-dichlorobenzene/PDCB) wastewater stream currently being transferred to our biotreatment system. By generator knowledge, PDCB is the only characteristic toxic contaminant that could exist in this wastestream.

All drums shown in photos 3 and 4 have been sampled, analyzed, and determined to contain non-hazardous waste. During the RCRA training session discussed in Item 2, the importance of immediately labelling and sealing drums was re-emphasized. Cedar will continue to monitor these procedures. A waste coding system has just started which will expedite the transfer of drums out of the generation areas and into the drum storage shelters.

The hazardous wastewater tank has been so labelled (photo enclosed).

A single 55-gallon drum is being used to accumulate solvents at the satellite collection area by the laboratory, and the date and label have been removed (photo enclosed).

#22

Item 2 - Failure to comply with the requirements of personnel training.

The enclosed Training Module and supporting documents are now a part of the Health, Safety and Environmental Manual. All employees who handle hazardous waste have now been through the RCRA Training Outline, and this will be repeated annually. A post-test was given and documentation has been entered in their personnel records.

Please call if you have any further questions.

Sincerely,

John Wagner

ITEM 1

CEDAR CHEMICAL CORPORATION
PDCB ANALYSIS SHEET

DATE July 14, 1993

Sample Origin V-320

Calibration Data

Injection 1 673104 Area counts

Injection 2 689132 Area counts

Injection 3 667466 Area counts

Avg. Area count 676567 Area counts
Std. Concentration - 215 ug\ml. PDCB

Sample Data

Injection 1 86065 Area counts

Injection 2 91790 Area counts

Injection 3 102492 Area counts

Avg. Area count 93449 Area counts
Sample amount - 100 mls.

Final Calculation

Extraction volume - 8 mls.
Avg. Standard area counts - 676,567
Avg. Sample area counts - 93,449
Sample amount - 100 mls.
Std. Concentration - 215 ug\ml

$$\text{PPM PDCB} = \frac{(93{,}449)(215\ \text{ug\ml})(8\ \text{mls.})}{(676{,}567)(100\ \text{mls.})} = 2.4\ \text{ppm PDCB}$$

It should be noted that the calculated numbers on the chromatograms are not significant since there was no valid calibration table created for this analysis.

Environmental Analytical Method ENV-1

" PDCB Analysis in Plant Effluents "

Revision A

Greg Satenfield Date 7/5/93

I. Scope

This method is suitable for the low level analysis of Para-Dichlorobenzene in Cedar Plant effluent. Any further application of this procedure must be checked vigorously with spikes and documented recovery data presented. There may be numerous chromatographic interferences present and chromatograms must be scrutinized carefully on an ongoing basis.

II. Principle

This analysis is an extractive procedure using solid phase extraction using Ethyl Acetate with subsequent analysis by Electron Capture Detection.

III. Instrumentation

A. HP 5890 Electron Capture with INETted 3396 integrator and 7673 Autoinjector.
B. 30 meter by ..25 mm by .5 u DB-17 capillary column(J and W).

IV. Conditions

A. Injector A-250 deg. C
B. Detector A-275 deg. C
C. Column Pressure-15 lbs. He
D. Purge flow - 30 mls.\min.He
E. Aux gas - 6 mls.\min. He
F. Temp- 80-290, I.H. 5 min
Rate A - 50 deg.C\min.
F.H.- 35 min.

VI. Extraction Procedure

A. Prepare the sample for extraction by lowering the ph of 100 mls. sample to <2 with 25% Sulfuric. Mix well.
B. Solvate a 20 ml. Mega bond C-18 SPE tube by running 10 mls. MeOH, and 10 mls. of distilled water under 3-5 " Hg vacuum. Do not let the column bed dry until the water is added or improper solvation will occur. This will increase component breakthrough. Vacuum dry once water is added for 10 minutes.
C. Put the 100 mls. of the sample through the SFE column with the vacuum of 15-20 " at a rate of 15 mls. per minute maximum.
D. Once the sample has been passed through, let vacuum dry for 10 minutes, add the 10 mls. Ethyl Acetate to the bed of the SFE column, let sit for 1 minute, then pull through slowly with a 10 ml. glass gas tight syringe. Final volume should be around 8 mls. total.
E. Collect in a septum capped vial and label with volume, date, analyst's initials, and ID. number.

VII. Calibration

A. Prepare a calibration standard by weighing out .02 grams of verified pure PDCB into a 100 ml. volumetric flask. Make up with Ethyl Acetate and mix well. Concentration is 200 ug\ml PDCB.
C. With instruments set up at prescribed conditions, make 3-2ul injections of the standard and average the factors received. Check for precision by manually calculating relative deviation which should be less than 10%.
D. Only after adequate calibration checks are performed can sample analysis begin. Enter the same operations with the sample table and placing in a sample slot on the autoinjector.
E. Make 3-2 ul sample injections at instrument conditions and calculate the ppm PDCB present as shown below:

VIII. Calculations

Example

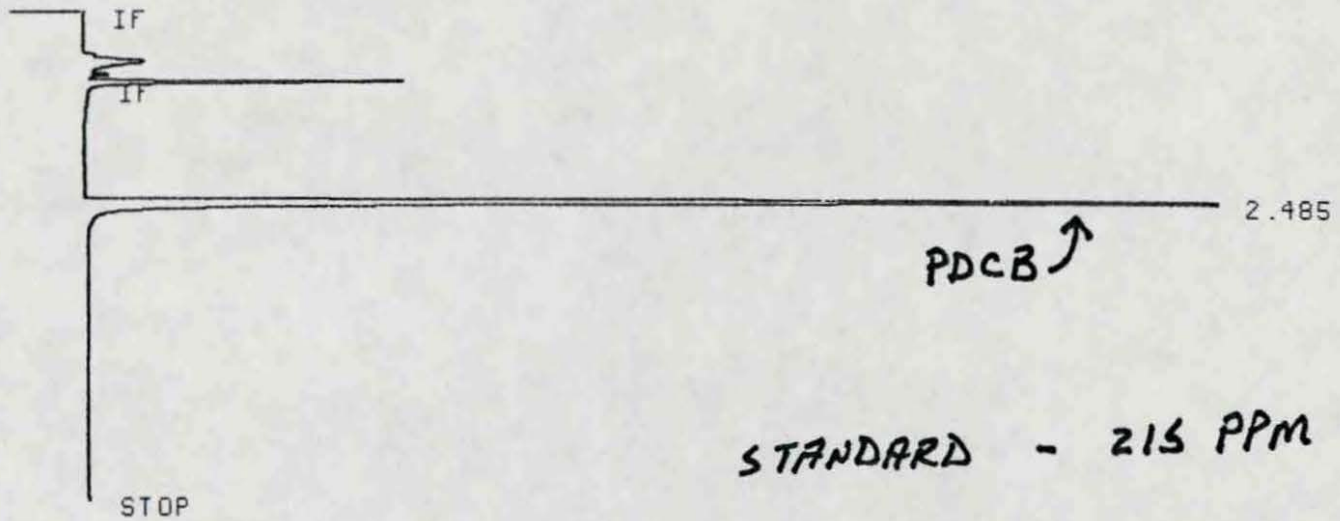
A. Mls. of sample	= A	= 100
B. Standard conc.(ug\ml)	= B	= 215
C. Area counts spl.(pv)	= C	= 20,000
D. Area counts std.(pv)	= D	= 600,000
E. Final mls. of extract	= E	= 8

$$\text{PPM PDCB} = \frac{(B)(C)(E)}{(D)(A)}$$

$$\text{PPM PDCB} = \frac{(215 \text{ ug\ml})(20{,}000)(8\text{mls.})}{(600{,}000)(100 \text{ mls.})} = .57 \text{ ppm}$$

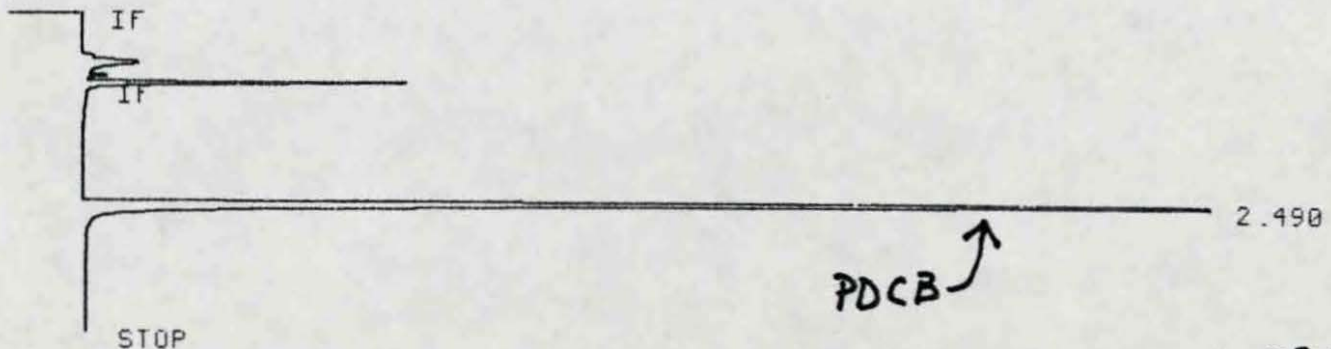
Detection Limits at the Method conditions have been determined to be .5 ppm of PDCB.

```
7673A SAMPLER:
 LOOP ADDRESS:  9

 FRONT INJECTOR
  INJ/BOTTLE           1 -->      @
  FIRST BOTTLE         1 -->      @
  LAST BOTTLE          1 -->      @
  # OF SAMPLE WASHES   3 -->      BREAK

*  SEQ  START
NOW LOADING M:PDCB.MET
EQUILIBRATION DELAY IN PROGRESS
RUN # 2156     JUL 19, 1993  03:41:05
START
```




```
RUN#  2156          JUL 19, 1993  03:41:05

SAMPLE NAME: STD                SAMPLE#     1
METHOD NAME: M:PDCB.MET

ESTD%-AREA
      RT TYPE        AREA  WIDTH CAL#      AMOUNT  NAME
   2.485   PB      673104   .048   1R  23576.352  PDCB

TOTAL AREA= 673104
MUL FACTOR=1.0000E+00
SAMPLE AMT=1.0000E+00
```

```
ESTD
REF % RTW:   5.000  NON-REF % RTW:   5.000

LEVEL: 1            RECALIBRATIONS: 2

CAL#      RT      LV     AMT       AMT/AREA
  1R    2.476     1 2.1500E+02  3.3413E-04

CAL#     NAME
  1   PDCB

CALIBRATION OPTIONS
RF of uncalibrated peaks .... 0.0000E+00
Calibration fit ............. P
Disable post-run RT update .. NO
SAMPLE AMT .................. 0.0000E+00
MUL FACTOR .................. 1.0000E+00

ABORTED

*  SEQ  START
NOW LOADING M:PDCB.MET
EQUILIBRATION DELAY IN PROGRESS
RUN # 2157     JUL 19, 1993  03:52:38
START
```

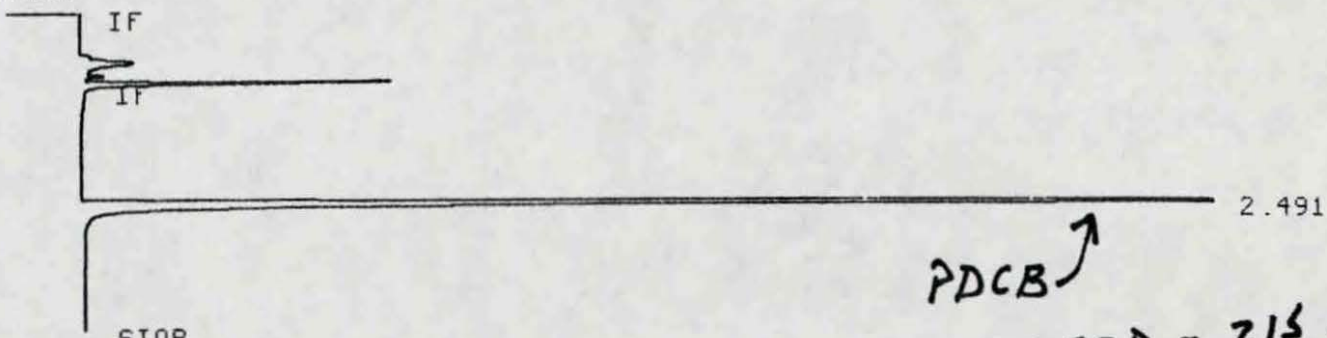


PDCB ↗

STANDARD - 215 PPM

```
RUN#  2157          JUL 19, 1993  03:52:38

SAMPLE NAME: STD              SAMPLE#    1
METHOD NAME: M:PDCB.MET

ESTD%-AREA
      RT TYPE       AREA  WIDTH CAL#     AMOUNT  NAME
   2.490   PB     689132   .048   1R  24137.760  PDCB

TOTAL AREA= 689132
MUL FACTOR=1.0000E+00
SAMPLE AMT=1.0000E+00
```

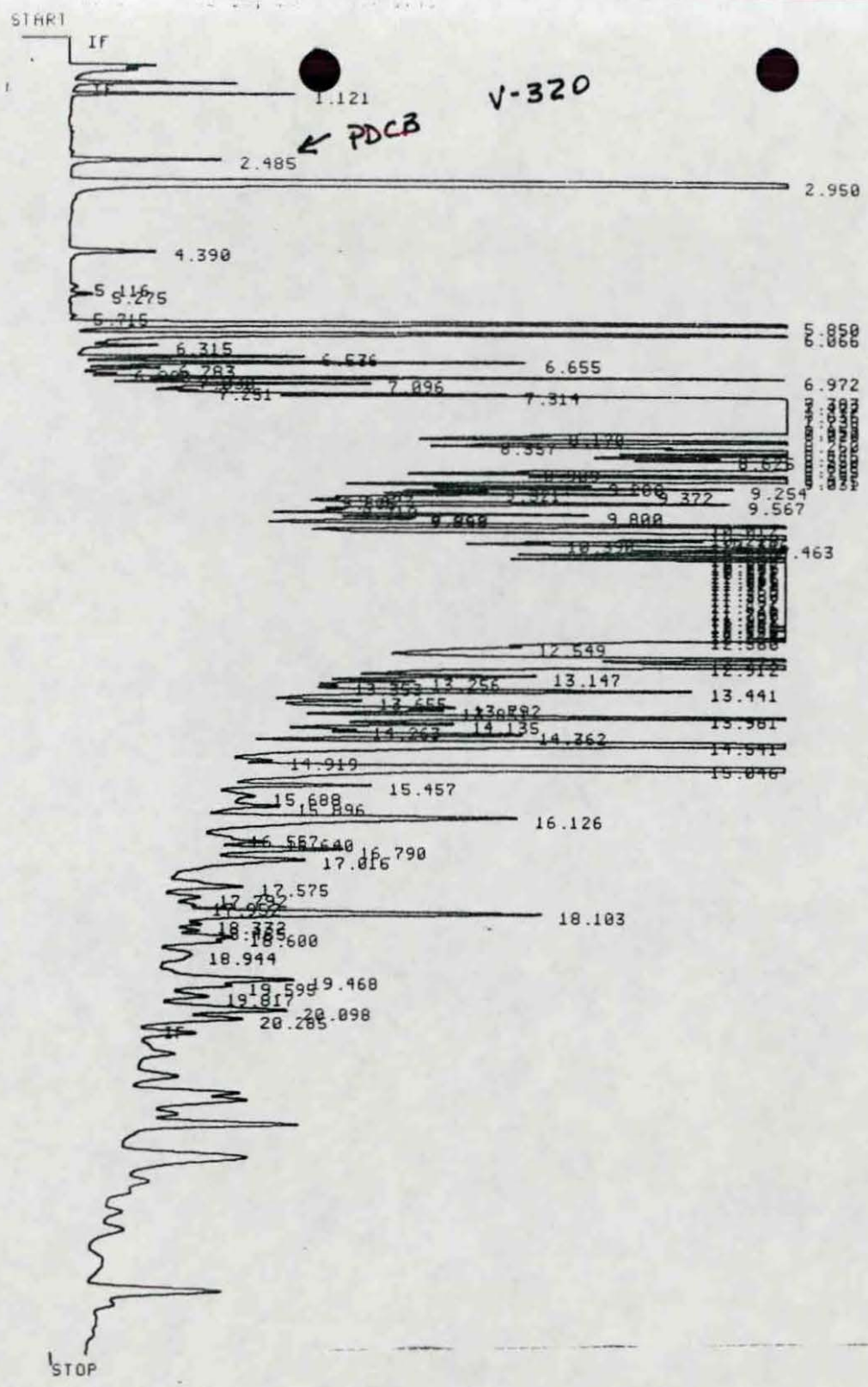
```
ESTD
REF % RTW:   5.000  NON-REF % RTW:   5.000

LEVEL: 1              RECALIBRATIONS: 2

CAL#      RT      LV     AMT        AMT/AREA
  1R    2.477     1 2.1500E+02  3.3002E-04

CAL#      NAME
  1   PDCB

CALIBRATION OPTIONS
RF of uncalibrated peaks .... 0.0000E+00
Calibration fit ............. P
Disable post-run RT update .. NO
SAMPLE AMT .................. 0.0000E+00
MUL FACTOR .................. 1.0000E+00

ABORTED

*  SEQ  START
NOW LOADING M:PDCB.MET
EQUILIBRATION DELAY IN PROGRESS
RUN # 2158     JUL 19, 1993  04:00:51
START
```



PDCB ↗

STANDARD - 215 PPM

```
RUN#  2158          JUL 19, 1993  04:00:51

SAMPLE NAME: STD                SAMPLE#     1
METHOD NAME: M:PDCB.MET

ESTD%-AREA
       RT TYPE        AREA  WIDTH CAL#      AMOUNT  NAME
    2.491   PB      667466   .048   1R  23378.880  PDCB

TOTAL AREA= 667466
MUL FACTOR=1.0000E+00
SAMPLE AMT=1.0000E+00



ESTD
REF % RTW:   5.000  NON-REF % RTW:   5.000

LEVEL: 1              RECALIBRATIONS: 2

CAL#      RT      LV     AMT        AMT/AREA
```



RUN# 2159 JUL 19, 1993 04:08:40

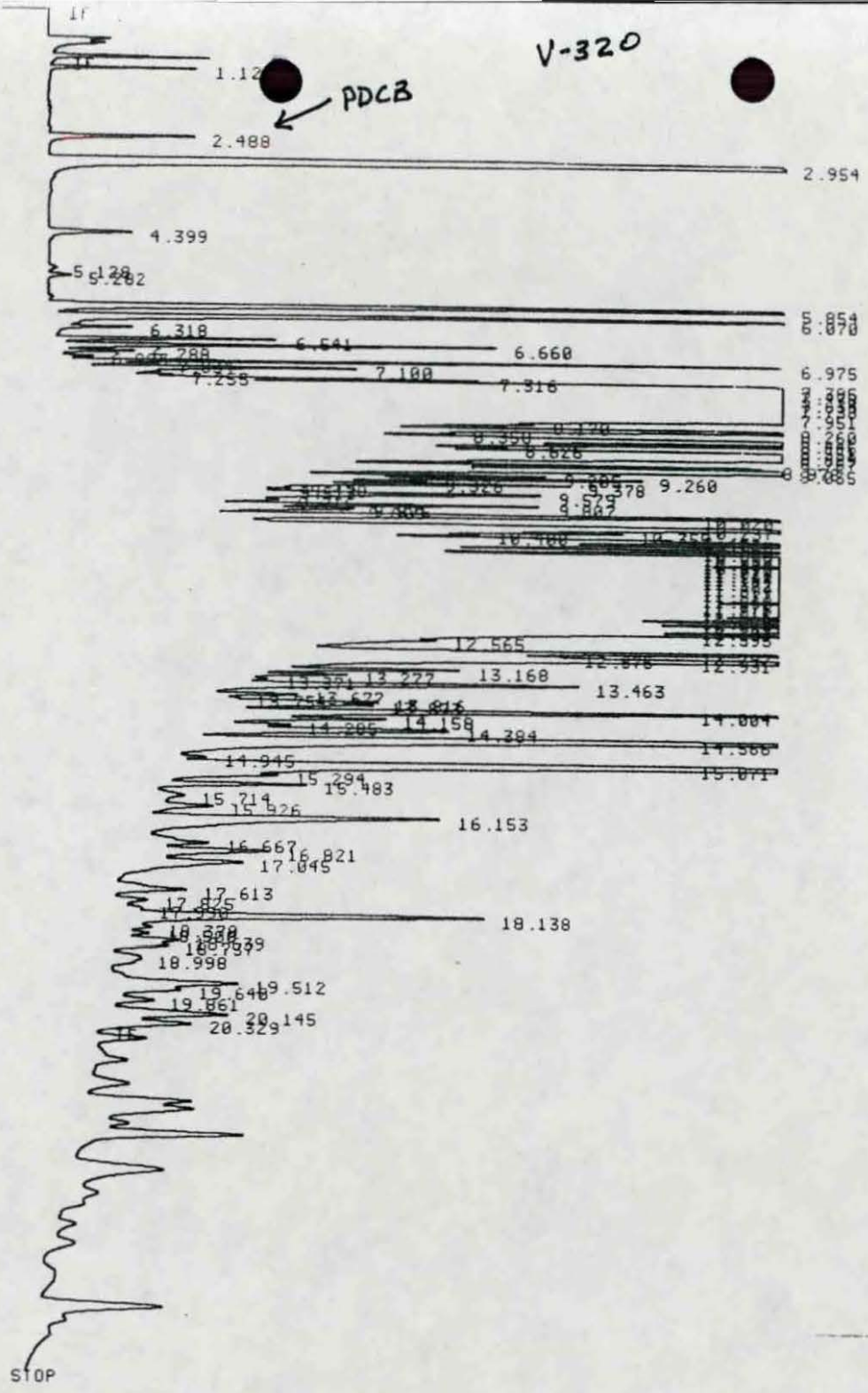
SAMPLE NAME: OUTFALL002 SAMPLE# 2
METHOD NAME: M:PDCB.MET

ESTDx-AREA

RT	TYPE	AREA	WIDTH	CAL#	AMOUNT	NAME
2.488	PB	86065	.056	1R	1808.725	PDCB

TOTAL AREA=1.8738E+08
MUL FACTOR=1.5000E-02
SAMPLE AMT=2.5000E-02

V-320



RUN# 2160 JUL 19, 1993 04:53:43

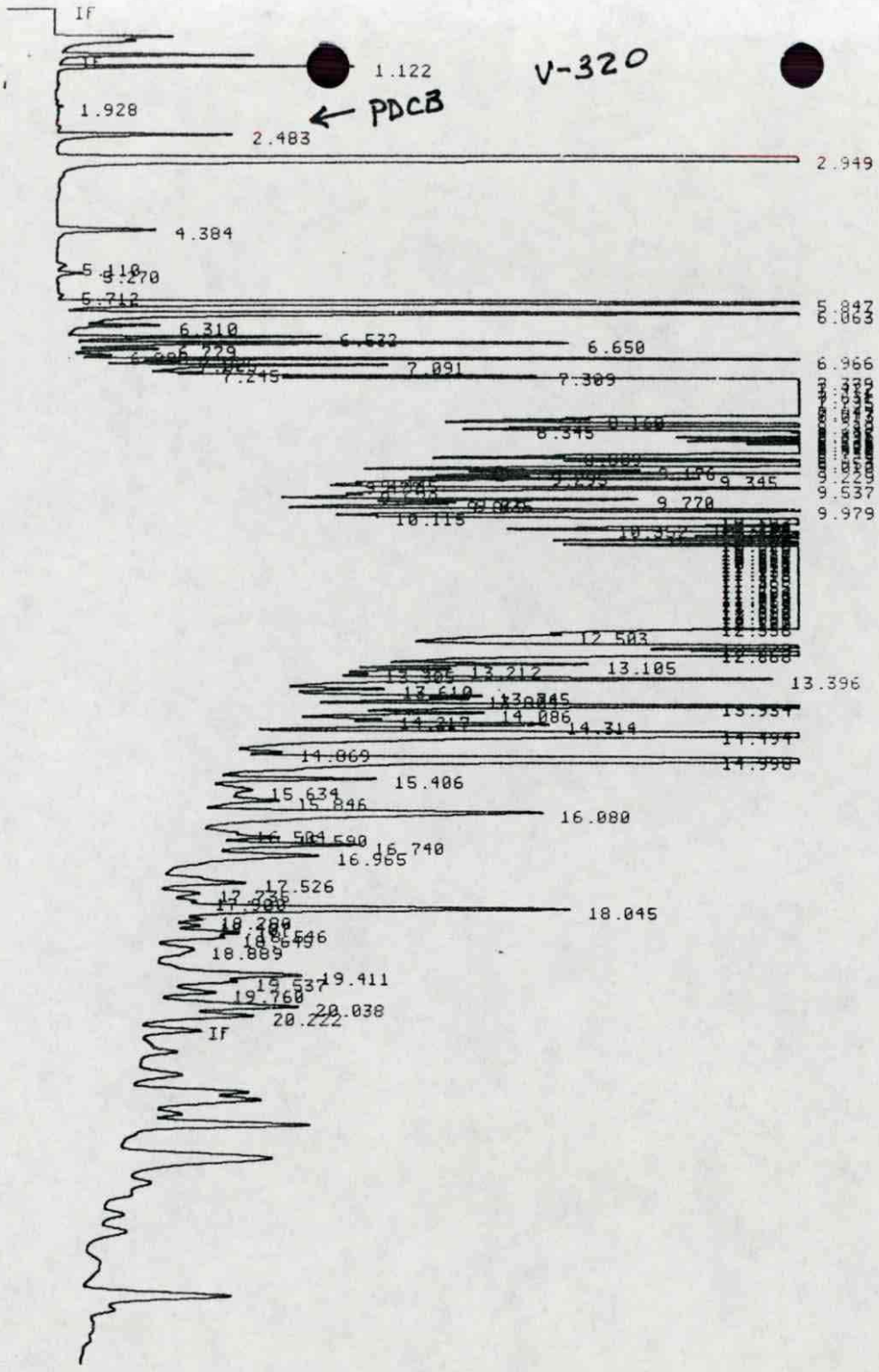
SAMPLE NAME: OUTFALL002 SAMPLE# 2
METHOD NAME: M:PDCB.MET

ESTD%-AREA

RT	TYPE	AREA	WIDTH	CAL#	AMOUNT	NAME
2.485	PB	91790	.057	1R	1929.041	PDCB

TOTAL AREA=2.0102E+08
MUL FACTOR=1.5000E-02
SAMPLE AMT=2.5000E-02

EQUILIBRATION DELAY IN PROGRESS



RUN# 2161 JUL 19, 1993 05:43:40

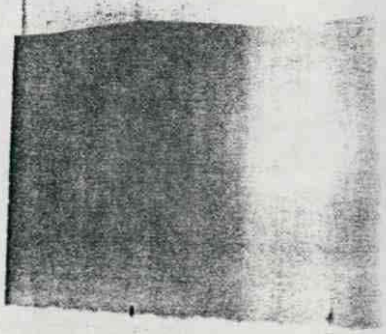
SAMPLE NAME: OUTFALL002
METHOD NAME: M*PDCB.MET SAMPLE# 2

ESTD%-AREA

RT	TYPE	AREA	WIDTH	CAL#	AMOUNT	NAME
2.483	PB	102492	.056	1R	2153.952	PDCB

V-320

7/19/93



ITEM 2

CEDAR INTERNAL CORRESPONDENCE

cc: B. Christian
D. Hoppel
N. Robbins
J. Wagner
Production Office (post)

To: L. Duncan
R. Fairchild
J. Forthman
J. Griffin
S. Herrington
R. Johns
T. Leslie
B. Oberle
R. Ray
G. Rial
G. Satterfield
D. Schaffhauser
A. Seeman
J. Vincent
J. Walker
J. Wells

From: M. J. Pocrass

Date: June 28, 1993

Subject: **RCRA Hazardous Waste Training Meetings, July 6 and 8, 1993**

Please arrange for your employees to attend the subject sessions as follows :

July 6 : 7 A. M. - 11-7 shift from the night before, Day Operators (9), Propanil " day " operator
2 P. M. - 3-11 shift, I/E technicians, Packaging, Day lab technicians, Propanil and Unit #4 7-3 shift lead operators
3 P. M. - 7-3 shift, Day operators (17)

July 8 : 7 A. M. - 11-7 shift from the night before, Mechanics

In addition to hourly employees, all members of production supervision, maintenance supervision (Mechanical and I/E) and packaging supervision must attend as well. Supervisory personnel, where feasible, can attend any one of the scheduled sessions.

It should be noted that federal regulations require this training to be conducted for any employee who would be involved with handling hazardous waste.

The meetings will be held in the break room in the locker room building. J. Wagner will conduct the sessions.

If you have any questions, please let me know.

M. J. Pocrass

EPA HAZARDOUS WASTE TRAINING MODULE

RCRA

40 CFR 256.16

This Training Module (TM) will be presented to all Cedar Chemical employees engaged in the handling or management of hazardous waste. The classroom training will be conducted by the environmental engineer and involve a post-test to determine comprehension levels. The topics covered here will be supplemented by chemical-specific training on waste management before the startup of each new process (Hazop Review and operator startup training), and will be documented separately.

Additional supplemental training will take place in monthly Departmental Communication Meetings. The sections from the Health, Safety and Environmental (HSE) Manual on the Emergency Planning and Response Policy (1-009), Hazardous Material Release Reporting (3-004), and the Contingency Plan (3-003) will be covered. This training will be documented separately.

Training will be conducted within six months of employment or upon assignment from an area where this training was not required. The RCRA TM will be the same for all persons involved in the handling of hazardous waste, with specific training covered in the Hazop Reviews and the Communication Meetings. An annual review of the RCRA TM will be given.

Documentation includes:

1. A list of all job titles requiring this training with matching names of persons filling those jobs.

2. A job description for each of the above positions. See personnel files.

3. A certification page showing training completion. Training records on current personnel will be kept until closure of the facility. Training records on former employees will be kept for three years from the date the employee last worked at this facility.

4. This Training Module (introductory and continuing topic outline).

HAZOP AND OPERATOR TRAINING TOPICS

1. Chemical and physical properties of hazardous materials employees will be working with.
2. Where hazardous chemicals and wastes are stored.
3. Hazardous waste management procedures relevant to the process.
4. Waste feed and chemical cut-off systems.
5. Detecting the presence or release of a hazardous chemical or waste through visual appearance or odor.
6. Shutdown of the operation in an emergency.
7. Spill prevention relating to tank truck and rail car loading.

COMMUNICATION TRAINING TOPICS

1. Emergency procedures and response to fires, spills and explosions.
2. Communications and alarm systems in an emergency.
3. Proper selection, use and maintenance of personal protective equipment (PPE) when working with hazardous waste.

INTRODUCTORY AND CONTINUING RCRA TRAINING OUTLINE

1. Drummed waste management and handling procedures (Section 3-001 of the HSE Manual).
    - A. Choosing the proper waste drum
        - i. Red - tight head for liquids other than DCA
        - ii. Black - open head for solids other than DCA
        - iii. Gray - open head for DCA
    - B. Drum filling and closing
        - i. How full
        - ii. Liquid/solid mix and rainwater
        - iii. Tighten and clean
    - C. Drum storage and labelling
        - i. Hazardous and non-hazardous shelters
        - ii. Waste codes and X-number
        - iii. Hazardous waste and permit-by-rule
        - iv. Pallets

2. Spill cleanup procedures and protection including past occurrences.

   A. Containment, absorption, neutralization
   B. Personal Protective Equipment
   C. Overpacks

3. A study of possible scenarios including direction of flow, rate of flow and potential quantities spilled.

   A. Dip directions and the culvert system
   B. Storage tank sizes

4. Discussion of secondary containment including the stormwater collection system.

   A. Dikes, sumps and pumps
   B. Ditches and stormwater sump

5. Potentially incompatible wastes can produce effects which are harmful to human health and the environment, such as heat or pressure; fire or explosion, violent reaction; toxic dusts, fumes, or gases; or flammable fumes or gases.

   Examples of potentially incompatible wastes follow:

   A. Alkaline caustic liquids (acid chloride or cypermethrin wastes) mixed with spent acid, battery acid or chemical cleaners can cause heat generation and violent reactions.
   B. Alcohols or water added to caustics or acids can cause fire, explosion, or generation of flammable or toxic gases. Can add acid to water.
   C. Alcohols or aldehydes (formaldehyde and PBald) mixed with caustics or acids can cause fire, explosion or violent reactions.
   D. Spent cyanide (cypermethrin) solutions mixed with acids can generate toxic hydrogen cyanide or hydrogen sulfide gas.
   E. Chlorine (DEHPA) or peroxides mixed with acetic acid, propionic acid, alcohols, aldehydes, or flammable wastes can cause fire, explosion or violent reactions.
   F. Ignitable or reactive waste must be separated and protected from sources of ignition or reaction.

EPA HAZARDOUS WASTE TRAINING MODULE OUTLINE

INTRODUCTION

1. Required training for handlers of hazardous waste

2. EPA/OSHA/DOT all require training for either hazardous waste or chemicals and much of it is overlapping

3. EPA requirements are satisified with information you will receive from 3 sources. One is this session (only EPA), plus communication meetings and the operator training, both of which are a combination of EPA/OSHA/DOT

4. Portion of EPA which applies is RCRA - Permit-by-Rule

5. Where is HSE Manual

DRUMMED WASTE

1. Use Section 3-001 to amplify 3-006

SPILLS

1. Location of oil dry - non biodegradable

FLOW

1. Plot plan of site

2. Plot plan of culverts

3. Plot plan of tanks

SECONDARY CONTAINMENT

1. 110% of tank capacity - important to keep dry

CERTIFICATE OF TRAINING

West Helena Plant

JULY , 1993
(date)

This is to certify that _____
(Name)

employed as _____ in the _____
(department)

Length of time class lasted _____

received the following training:

		____	Seminar
XXXX	RCRA (hazardous waste)	____	Respiratory Protection
____	Hearing Conservation	____	Fire Protection
____	Hazardous Communication	____	Emergency Response Training
____	Other	____	Process Training

Subject(s) RCRA TRAINING MODULE (INTRODUCTORY) - 40CFR256.16
HSE MANUAL SECTION 3-006

_____
(Trainer's Signature)

I acknowledge receiving the above training:

_____
(Trainee's Signature)

CC: Trainee
Trainee's File

Warlock Printing — West Helena, Ark.

POST-TEST FOR RCRA TRAINING MODULE

NAME _____ DATE _____

1. How often is EPA (RCRA) update-training required? _____

2. All Cedar employees who handle hazardous chemicals/waste are subject to regulations under EPA, OSHA and DOT. T or F (circle one)

3. What are the maximum number of days that Cedar can retain a drum of hazardous waste on-site once it has been generated?

_____

4. What items of information should appear on a drum of hazardous waste which has been staged for shipment off-site? (circle one)

a. X-number
b. waste code
c. hazardous waste label
d. all of the above
e. only a and b

5. What Cedar document contains all the information relevant to waste drum management and emergency procedures? _____

6. No reaction will occur when you add water to acid. T or F (circle one)

7. What is the only acceptable absorption medium for containing and/or cleaning up spills? _____

8. On what occasions will you need to contact the Services Group? (circle one)

a. when a drum has been filled with waste
b. when a leaking drum is discovered
c. whenever you have a question on the proper handling or filling of a drum of waste
d. all of the above

9. X07306 represents what date? _____

10. Match the color of the drum with the waste type.

a. liquid	i. black
b. solid	ii. gray
c. DCA	iii. red

a. ___ b. ___ c. ___

-- DOCUMENTATION --

LIST OF

JOB TITLES REQUIRING HAZARDOUS WASTE TRAINING

Employees assigned to the following departments and positions are required to participate in the initial Hazardous Waste Training and annual re-training sessions:

1. Production supervisors
2. Maintenance supervisors
3. Maintenance department
4. Electrical department
5. Operations department
6. Services group

Persons filling these positions are listed on the Telephone Call-out List (attached).

This training is required within six months of any employee being assigned, for the first time, to any of the above categories. Continuing training is required for everyone on an annual basis.

TELEPHONE LIST FOR CALL OUTS

Revised 7/2/93

MANAGEMENT

Christian, Bob	572-2048
Gastrock, Bill	572-3352
Hoppel, Dave	338-6020
Howard, Ken	no phone
Krusling, Jim	338-3447
Lodice, Tom	338-8905
Pocrass, M. J.	572-4275
Robbins, Neil	338-6733
Schweikert, Pat	572-7002
Wagner, John	338-8007

FRONT OFFICE PERSONNEL

Ayers, Hollie	572-3848
Calhoun, Lessie	572-2214
Cantrell, Guinn	
Hunter, Trish	338-3527
Fraiser, Sheila	572-6443
Ketchum, Rita	572-1218
Odle, Dora	338-7305
Rowan, Norman	572-5606
Tucker, Barbara	572-5878

PRODUCTION SUPERVISORS

Duncan, Linnie	572-2853
Griffin, James	572-5769
Johns, Richard	572-5189
Rial, Gary	572-6674
Seeman, Andy	572-6081
Vincent, Johnny	572-5689
Walker, Joel	572-6039

MAINTENANCE SUPERVISORS

Forthman, Joe	829-2234
Herrington, Stanley	572-4349
Leslie, Terry	572-9167
Ray, Robert	572-2248
Wells, James	572-7667

LAB SUPERVISORS

Fairchild, Russell	572-3941
Satterfield, Greg	572-3266

SAFETY SUPERVISOR

Schaffhauser, Beaver	572-5297

MAINTENANCE

Fonzie, Sammy	338-3725
Henry, Loylett Sr.	338-6920
Hudson, Gary	572-7720
Hudson, James	338-3511
Lederman, Curtis	572-5934
McLendon, Ricky	572-7074
Oxner, Madison	572-7396
Phillips, Lynn	572-5928
Scaife, Wally	295-6570

ELECTRICAL

Jones, Steve	338-7394
Parker, Gerald	572-1503
Smith, Alan	338-7974
Worstell, Chris	572-6882

OPERATIONS

Allen, Lester	338-7906
Anderson, Chris	572-6319
Clark, Kevin	827-6554
Collier, Benzene	338-7516
Davis, Bryan	572-9253
Dowd, Maurice	572-2536
Edmond, Freddie	572-7157
Franklin, Dondie	572-1065
Garner, Joe	572-2636
Garner, Joe	572-9074
Garrison, Kenneth	572-6477
Herrington, Erwin	572-5574
Holmes, Mike	572-2167
Hughes, Arthur	572-9132
King, Geoff	572-5857
Knuckles, Tony	572-4166
Laureles, David	572-6145
Lederman, Bob	572-1427
Littleton, Mike	295-5387
Lloyd, Chip	827-3898
McBride, Mark	572-5449
McCarty, Scott	572-5502
McClendon, Terry	295-3061
Moore, Jack	572-2056
Neighbors, Lindsey	572-6972

PACKAGING SUPERVISOR

Oberle, Bud	572-5721

PRODUCTION CLERK

Walker, Lisa	572-3235

SAFETY

Catlett, Keith	829-2340
McGinnister, Carnell	572-7735
Meek, Ted	572-3228
Sullivan, Mac	572-5460
Walker, David'	572-1748
Williams, Johnny	572-5326

LABORATORY

Fernicola, Poss	338-8573
Hill, Gary	
Kummer, Dale	572-2729
Lee, Claude	572-1714
Mitchell, Bob	572-7517
Peppers, Frankie	572-7834
Peppers, Troy	572-3071
Terral, Charlie	829-3868

PACKAGING

Fonzie, Bennie	338-3584
Gray, Larry	338-7635
Henry, Loylett,Jr.	338-7968
Hughes, Curtis	No Phone
Jackson, Mose	338-6903
Mitchell, Rafe	572-7072
Sykes, Terrance	572-6152

WAREHOUSE

Estes, Floy	572-2647
Estes, Glenn	572-2647
New, Jason	572-9023
Norman, Robby	572-1888
Parker, David 601	337-2929
Predmore, Greg	572-6446
Ramey, Bruce	572-3540
Robinson, Owen	572-6357
Simmons, Reginald	572-9525
Sims, Kelvin	829-2616
Smith, Burke	338-7604
Starks, James	572-2577
Strayhorn, Kenneth	572-1166
Thomas, Dewey	572-1402
Vallun, David	338-8325
White, John	572-6344
Williams, Henry	572-9156
Williams, James	572-1587
Wilson, Mike	572-4117
Wilson, Tim	572-6863
Zink, Jeff	572-4324

BEEPERS

Forthman, Joe	338-5054
Johns, Richard	338-5085
Pocrass, M.J.	338-5087
Ray, Robert	338-5051
Walker, Joel	338-5086

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
LEGAL DIVISION

MEMORANDUM

DATE: July 21, 1993

TO: David Hartley, Engr., HWD

FROM: Randal K. Oberlag, Attorney RKO

SUBJECT: Cedar Chemical
CAO LIS 91-118

David- I have received the attached letter dated July 12 which purports to document our meeting of July 7. Please review to see if this accurately reflects the understandings as you see regarding the addressed items. Mr. Malone also requests safe-keeping of certain original documents in your possession. I would like to respond to this letter soon, so let me know something when you get a chance to review it.

cc: Joe Hoover

CHARLES METCALF CRUMP
JERRE G. DUZANE
JOHN B. MAXWELL, JR.
ALLEN T. MALONE
PHILIP G. KAMINSKY
ROBERT L. DINKELSPIEL
HENRY L. KLEIN
ROSS B. CLARK II
JAMES F. RUSSELL
JOHN L. RYDER
THOMAS R. BUCKNER
BRUCE M. SMITH
*TONI CAMPBELL PARKER
STEVEN N. DOUGLASS
RANDY S. GARDNER
KAREN R. WILLIAMS
*ELIZABETH ANN CAMP
**ALAN G. CRONE
STEPHANIE GREEN COLE
WILLIAM L. ZOCCOLA
LINDA D. SCHOLL

*ALSO ADMITTED IN MISSISSIPPI
**ALSO ADMITTED IN ARKANSAS

SAMUEL RUBENSTEIN
OF COUNSEL

LAW OFFICES
APPERSON, CRUMP, DUZANE & MAXWELL
SUITE 2110
ONE COMMERCE SQUARE
MEMPHIS, TENNESSEE 38103-2519
901 / 525-1711

FACSIMILE 901 / 521-0789

CHARLES W. METCALF, 1840-1924
WILLIAM P. METCALF, 1872-1940
JOHN W. APPERSON, 1896-1985

EAST OFFICE:

SUITE 100
1755 KIRBY PARKWAY
MEMPHIS, TENNESSEE 38120
901 / 756-6300
FACSIMILE 901 / 757-1296

July 12, 1993

Mr. Randal K. Oberlag
Attorney
Arkansas Department of Pollution
Control & Ecology
8001 National Drive
P. O. Box 8913
Little Rock, Arkansas 72219-8913

Re: Cedar Chemical Corporation/West Helena Plant
LIS No. 91-118

Dear Randal:

This letter will confirm the understandings reached at our meeting in your offices on July 7, 1993, attended by Joe Hoover, David Hartley and you on behalf of the Department, and by John Wagner, Environmental Manager at Cedar's West Helena Plant, Jeff Bennett with EnSafe in Memphis and me on behalf of Cedar Chemical Corporation.

First, it is my understanding that you have been assigned responsibility for this case, and that you should be copied on correspondence, etc. to the Enforcement Branch Manager of the Hazardous Waste Division instead of Pat Crossley, in accordance with Paragraph 10k of the CAO. I am happy to hear about this reassignment since your involvement in the CAO in Case No. LIS 92-112 ought to help assure coordination of the corrective action implemented under the two CAO's. As you know, this has been a matter of some concern to John Wagner.

This letter will also confirm the understandings reached at our meeting regarding the Department's approval of the revised Facility Investigation Work Plan (FIWP) which Cedar submitted January 22, 1993, subject to those twenty-nine conditions for approval which were attached to Joe Hoover's letter to John Wagner of June 1, 1993. Cedar responded to the conditions by memorandum which was faxed to Joe Hoover on July 6, 1993. The response was

deemed to satisfy the Department's conditions, subject only to the following outstanding matters:

1. The Laboratory Quality Assurance Plan which was submitted by Jeff Bennett of EnSafe in response to Condition No. 1 will be reviewed by the Department and if there is any question or comment, the Department will advise Cedar by July 23, 1993. Otherwise, we will assume that the QA Plan is acceptable.

2. With regard to Condition No. 2, I reviewed a number of old Department files with David Hartley and we did locate a number of old handwritten plats and drawings indicating the presence of waste ponds or other disposal areas. I believe, however, that the FIWP addresses each of these areas. In any event, I pulled the plats and other correspondence from these files (particularly correspondence pertaining to the 1971-1972 time frame) and David agreed to have each of these documents photocopied and sent to me promptly. I will furnish copies to EnSafe for use in implementing the FIWP.

(Incidentally, among the documents we located in these files were "as built" drawings on the drum burial vault which seem to answer some questions that have previously been asked.)

3. David Hartley will check the procedures for plugging and abandoning wells which were submitted by EnSafe in response to Condition No. 9 and notify Cedar by July 23, 1993 if these plans are in any way inconsistent with applicable Water Well Rules and Regulations.

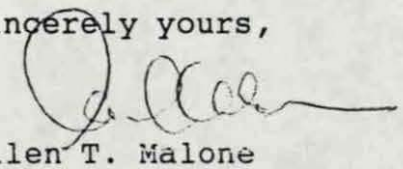
4. It was agreed that one of the two additional monitoring wells identified in a plat which was delivered at our meeting in response to Condition No. 18 will be moved to satisfy Condition No. 26. David Hartley is to review the new location to determine if the relocated well appears adequate to monitor possible groundwater contamination which might be caused by closed trenches which were reported to have existed in 1972 in the vicinity of what is now Unit No. 4 on the Plant site. If David sees any difficulty with the new location, I understand that he will communicate with Cedar by July 23, 1993. Otherwise, EnSafe will submit another revised plat showing the final agreed monitoring well locations for these two additional wells.

5. Cedar will submit to the Department by July 23, 1993 a proposed work schedule which is now being prepared by EnSafe for implementation of the FIWP. It was agreed that Cedar would make arrangements to initiate the FI by not later than August 23, 1993. As I understand it, this will permit Cedar to complete the FI by the first quarter of 1994 and within sixty days thereafter, to submit the investigative analysis and draft FI Report required by the CAO.

Finally, I would like to confirm my understanding that David Hartley or you will maintain the files which I reviewed at the Department last week in safe custody, particularly the originals of those documents which David agreed to copy and mail to me. Many of these documents are highly relevant to conditions on the Plant site at the time it was controlled by Ansul, and I believe will be important in further proceedings in Cedar's suit against Ansul's successor, Wormald, to recover response costs in addition to the drum removal costs for which Cedar has already been granted partial summary judgment. Eventually, I hope that Wormald will become an active participant in development and implementation of corrective measures under the CAO.

I look forward to working with you in this matter.

Sincerely yours,



Allen T. Malone

ATM:jw

cc: Mr. John Wagner

ENSAFE Environmental and Safety Designs, Inc.
901/372-7962

5724 SUMMER TREES DR. • P.O. BOX 341315 • MEMPHIS, TN 38184-1315

July 20, 1993

Enforcement Branch Manager
Hazardous Waste Division
ATTN: Mr. Joe Hoover
Arkansas Department of Pollution Control
and Ecology
8001 National Drive
Little Rock, Arkansas 72219

Dear Mr. Hoover:

Enclosed please find three copies of the revised Figure 1-8 from the Cedar Chemical Corporation Facility Investigation Workplan and the schedule for implementation of the workplan as requested in our meeting on July 7, 1993. As noted in the schedule, site preparation activities will begin on August 23 and field activities will begin on August 30.

We look forward to working with ADPC&E on implementing the FI workplan. If you have any questions or comments please contact Mr. John Wagner at the Cedar Chemical Corporation plant in West Helena at (501) 572-3701.

Sincerely,

Jeff Bennett

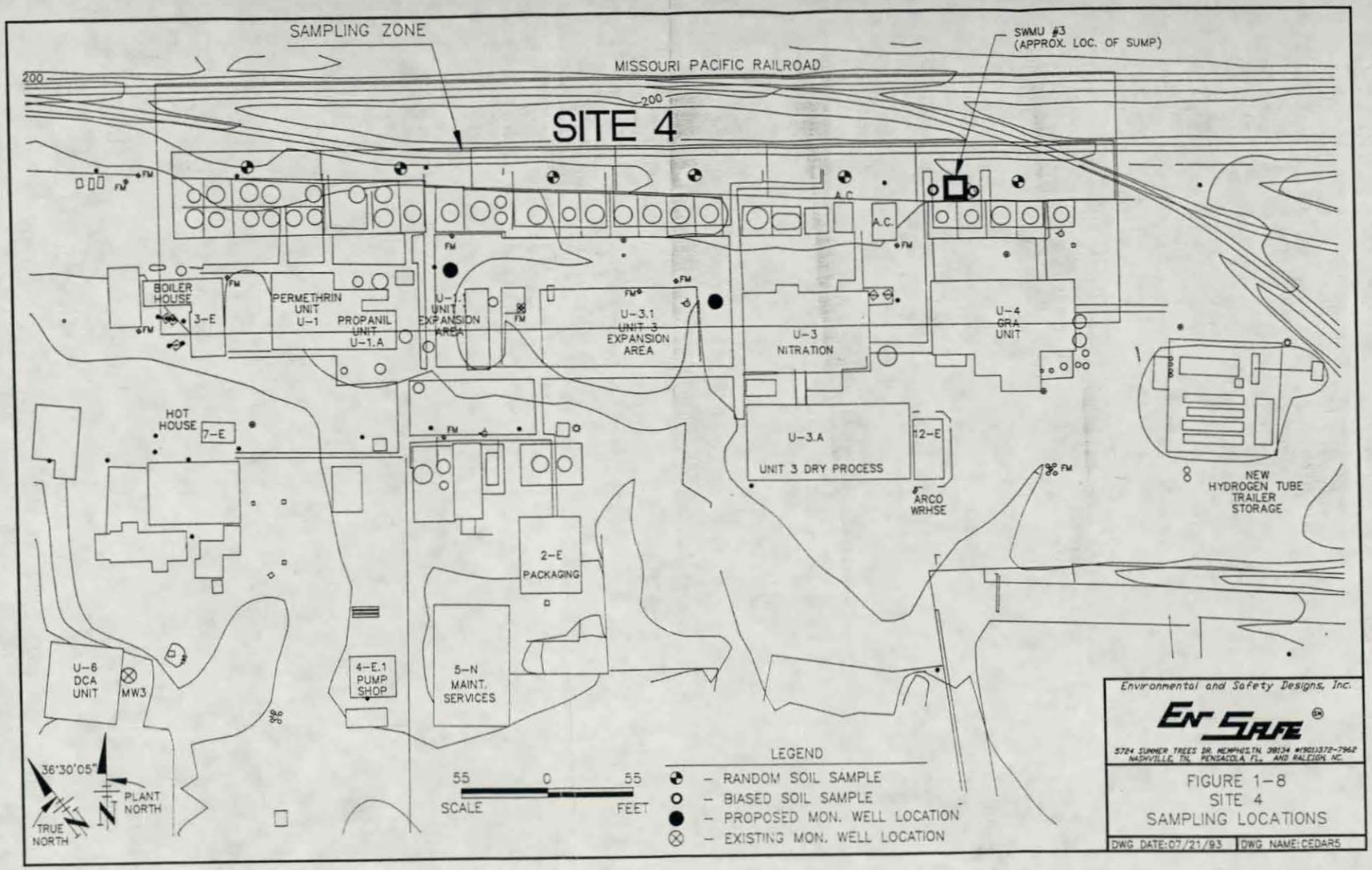
Jeff Bennett
Project Manager

Enclosures

cc: Mr. Randall Oberlag, ADPC&E
Mr. John Wagner, Cedar Chemical
Mr. Allen Malone, Apperson, Crump, Duzane & Maxwell

CEDAR CHEMICAL CORPORATION
WEST HELENA, ARKANSAS PLANT
FACILITY INVESTIGATION
SCHEDULE OF EVENTS

August	23	Site Preparation
	30	Begin Field Activities
November	12	Field Activities Completed
December	10	Final Laboratory Report Due
	17	Progress Report to ADPC&E
February	8	Facility Investigation Report Due to ADPC&E


SAMPLING ZONE
SWMU #3
(APPROX. LOC. OF SUMP)
MISSOURI PACIFIC RAILROAD
200
200
SITE 4
BOILER HOUSE
3-E
PERMETHRIN UNIT
U-1
PROPANIL UNIT
U-1.A
U-1.1 UNIT 3 EXPANSION AREA
U-3.1 UNIT 3 EXPANSION AREA
U-3 NITRATION
U-4 GRA UNIT
A.C.
HOT HOUSE
7-E
U-3.A
UNIT 3 DRY PROCESS
12-E
ARCO WRHSE
NEW HYDROGEN TUBE TRAILER STORAGE
2-E PACKAGING
U-6 DCA UNIT
MW3
4-E.1 PUMP SHOP
5-N MAINT. SERVICES
36°30'05"
PLANT NORTH
TRUE NORTH
55 0 55
SCALE
FEET
LEGEND
- RANDOM SOIL SAMPLE
- BIASED SOIL SAMPLE
- PROPOSED MON. WELL LOCATION
- EXISTING MON. WELL LOCATION
Environmental and Safety Designs, Inc.
EnSafe
5724 SUMMER TREES DR. MEMPHIS,TN. 38134 (901)372-7962
NASHVILLE, TN. PENSACOLA, FL. AND RALEIGH, NC.
FIGURE 1-8
SITE 4
SAMPLING LOCATIONS
DWG DATE:07/21/93
DWG NAME:CEDAR5

SITE 4

SAMPLING ZONE

SWMU #3
(APPROX. LOC. OF SUMP)

MISSOURI PACIFIC RAILROAD

200

200

FM

BOILER HOUSE

3-E

PERMETHRIN UNIT
U-1

PROPANIL UNIT
U-1.A

U-1.1
UNIT 1
EXPANSION AREA

U-3.1
UNIT 3
EXPANSION AREA

U-3
NITRATION

A.C.

U-4
GRA UNIT

HOT HOUSE

7-E

U-3.A
UNIT 3 DRY PROCESS

12-E

ARCO WRHSE

NEW HYDROGEN TUBE TRAILER STORAGE

2-E
PACKAGING

U-6
DCA UNIT

MW3

4-E.1
PUMP SHOP

5-N
MAINT. SERVICES

36°30'05"

PLANT NORTH

TRUE NORTH

55 0 55
SCALE FEET

LEGEND

- RANDOM SOIL SAMPLE
- BIASED SOIL SAMPLE
- PROPOSED MON. WELL LOCATION
- EXISTING MON. WELL LOCATION

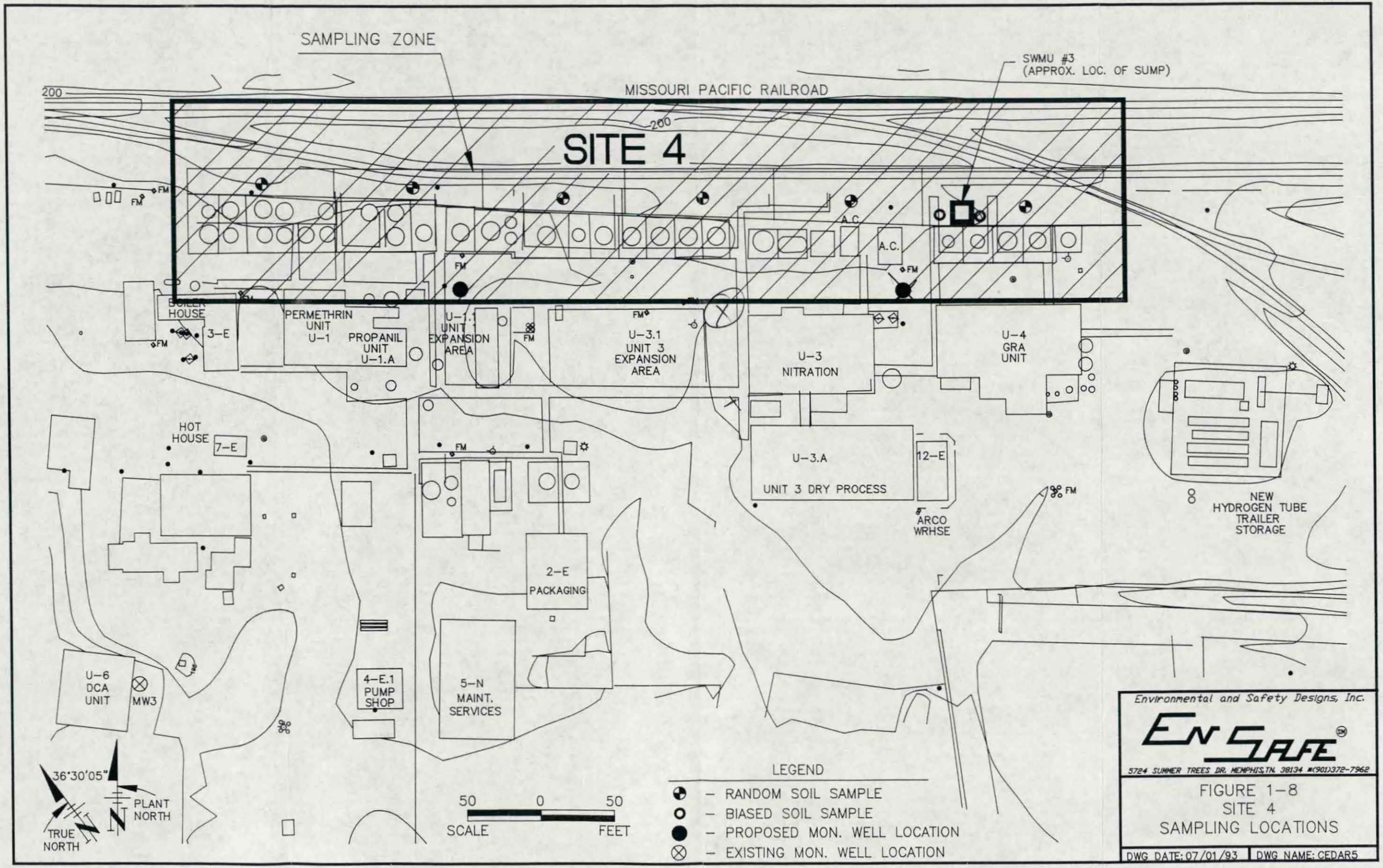
Environmental and Safety Designs, Inc.

EnSafe (SM)

5724 SUMMER TREES DR. MEMPHIS, TN. 38134 (901)372-7962
NASHVILLE, TN., PENSACOLA, FL., AND RALEIGH, NC.

FIGURE 1-8
SITE 4
SAMPLING LOCATIONS

DWG DATE:07/21/93 | DWG NAME:CEDAR5



Environmental and Safety Designs, Inc.

EnSafe

5724 SUMMER TREES DR. MEMPHIS, TN. 38134 ☎(901)372-7962

FIGURE 1-8
SITE 4
SAMPLING LOCATIONS

DWG DATE: 07/01/93 | DWG NAME: CEDAR5

7-7-93

Cedar Chemical Corporation
West Helena Plant
Response to Comments

Comment	Response
Provided 1	IT Analytical Services has been selected to perform the laboratory analyses for the Facility Investigation. A copy of the laboratory quality assurance plan will be submitted to ADPC&E on July 7, 1993.
will provide does to Cedar 2	Following a review of the recently discovered documents, Cedar will investigate any former drum disposal areas that are not currently included in the sites being investigated.
3	An Arkansas registered geologist with EnSafe will be present during all monitoring well drilling activities and will prepare and sign boring logs for each well. Overseeing by Geo
ok 4	As stated in Sections 1.2.6.5 and 1.2.8, all water purged from the monitoring wells will be containerized in DOT-17H 55-gallon drums. Analyses of corresponding groundwater samples in accordance with the FIWP will be used to determine if the purged water should be treated as hazardous waste. Hazardous waste will be stored on the site less than 90 days and sent to a hazardous waste disposal facility and non-hazardous waste will be sent to the on-site water treatment facility.
ok 5	As stated in Section 1.4.5 all field instruments will be calibrated at the beginning and end of each day according to the manufacturer's standard operating procedures. Procedures on site and available
ok 6	Decontamination procedures will be performed within a field portable decontamination station. Typically, this portable configuration consists of 4 rigid wall members (usually 12 foot long 2x6 timbers) butt-nailed together, several layers of 6 mil poly sheeting (Visqueen), and a support stand for augers and drill tools. Once the wall members are connected to form a 12 by 12 foot area, a sump is dug in the downgradient corner of the decon area. The decon area is covered with 2 to 3 layers of 6 mil poly sheeting and an electric centrifugal (or similar) pump is placed in the sump. All rinse water generated during decon procedures will be pumped to 55-gallon drums for characterization until final disposal options can be identified.
ok 7	The integrity of all existing groundwater monitoring wells will be verified by an Arkansas Registered Geologist prior to sampling. Integrity checks will consist of a visual inspection of the above grade components of each well followed by a comparison of the existing groundwater level and total well

depth to the respective levels recorded after well completion. The integrity of each existing monitoring well will be recorded in the field log book. The decision of whether or not an existing well will provide accurate defensible data will be the sole responsibility of the project geologist.

As stated in Section 1.2.6.3 of the workplan all monitoring wells will be surveyed by a State of Arkansas registered land surveyor to the nearest 0.01 foot incorporating USGS NAD '83.

8 As stated in Section 1.2.6.3 all monitoring wells will be surveyed to the top of the casing to the nearest 0.01 foot. Groundwater elevations will be calculated from the permanent mark on the top of each well casing.

9 Well abandonment procedures for the existing monitoring wells adjacent to the wastewater treatment ponds and the old production well will consist of the following:

- If possible, measure and record the existing water level and total depth of each well.
- For above ground completions, cut and remove the protective cover flush with the concrete pad.
- Install a gasket/flume device to collect displaced groundwater.
- Pressure grout the well casing from the bottom to within 2 feet of the surface using a properly sized tremie pipe. Grout mixture will consist of Portland Type I cement and 4 to 7 percent bentonite powder by weight.
- Cut the well casing off flush with the concrete pad. Fill the remaining 2 feet of well casing with concrete, and finish flush with the existing concrete pad.

10 As per the approved CAO, the purpose of the FI is to determine the nature and extent of contamination on the Cedar Chemical property. If results of the FI indicate a need for additional sampling or well installations, recommendations for these activities will be included in the FI report which is due 60 days after completion of the Facility Investigation.

11 Cedar will use the statistical methods established by the USEPA in "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities - Interim Final Guidance" to determine if groundwater at the facility has been impacted. These procedures are consistent with the criteria recommended by ADPC&E in their comments dated May 20, 1993.

12 Following completion of the FI, Cedar Chemical will, if conditions warrant, expand the scope of the investigation, including, if necessary, sampling off-site private wells.

13 As stated in Section 1.2.6.3 of the workplan, Cedar will install additional nested wells in any water-bearing zones encountered above the alluvial aquifer.

14 If water-bearing zones are encountered above the alluvial aquifer at this unit then clustered wells will be installed. No clustered wells will be installed in areas where no perched water is encountered.

15 Analysis of sediment from the wastewater treatment ponds for all Toxicity Characteristic constituents was included in the workplan in direct response to a comment by ADPC&E in their "Notice of Deficiencies" dated January 23, 1992. In response to this comment, we will analyze the sediment samples for the same parameters being used for other soil/sediment samples.

16 Activities associated with the API Separator are described in the response to Comment #22.

17 All samples will be screened with a photoionization detector to detect volatile non-halogenated compounds in addition to the chloride screen to detect chlorinated compounds.

18 Two additional groundwater monitoring wells will be installed in the vicinity of this site. A map showing the locations of the additional wells will be submitted to ADPC&E on July 7, 1993.

19 As noted in Section 1.3.7, Cedar will install soil borings in the area where the dinoseb disposal pond is believed to have been located. If located, the vertical and horizontal extent of the contamination will be delineated.

20 Since dinoseb produces a visible yellow stain in soil at very low concentrations, visually screening soil would be more likely to produce "false positive" indications of contamination than a "false negative" indication that may cause dinoseb contamination to be overlooked. Confirmation samples will be collected in the vicinity of the disposal ponds and submitted to the laboratory for dinoseb analysis.

21 Following a review and verification of ADPC&E's information concerning previous uses of this area as an overflow area for the wastewater treatment ponds, Cedar Chemical will prepare a soil sampling plan for this area.

22 In February 1992 Cedar Chemical installed a gutter around the API Separator to prevent occasional overflow when the separator became clogged. The interior and exterior of the separator was steam cleaned and stained dirt was

graded off the back side of the equalization basin berm. No samples were collected of the excavated soil since it was determined to be DCA contamination by generator knowledge. The excavated soil was placed in approximately 10 drums and sent to the Chemical Waste Management Subtitle C landfill in Carlyss, Louisiana with material from the ongoing DCA solid waste stream.

In February 1993 Cedar Chemical installed a new API Separator to replace the old one.

It should be noted that the adjacent landowner, Norak, owns the ditch that the API Separator overflowed into. Between February 1992 and February 1993, Norak enlarged the ditch removing the original dirt from this area of the ditch. However, soil samples will be collected from the ditch and the berm of the equalization basin as part of Area of Concern #3.

23 Table 1-4 will be corrected and submitted to ADPC&E on July 7, 1993.

24 Table 1-6 will be corrected and submitted to ADPC&E on July 7, 1993.

25 The 7000 series analytical methods will be used for these metals to obtain a groundwater detection limit below the MCL.

26 The only areas identified in the Wormald depositions as potentially containing hazardous substances were the dinoseb disposal ponds which are being investigated as described in Section 1.3.7 of the FIWP; the drum burial areas which have already been remediated; and other areas which are already included among the SWMU's under investigation in the FIWP. Other than these SWMU's, Cedar is unaware of any areas identified in the depositions which appear to have involved the disposal of any hazardous waste

27 If, based upon data developed by the FI, additional activities are needed to develop the relationships between contaminated media at the site, a plan for these activities will be provided at that time.

28 If, based upon data developed by the FI, groundwater contamination is encountered at the site that will require remediation, all necessary information required to develop a corrective measure for groundwater will be provided, including, if necessary, implementation of a supplemental FI.

29 If, based upon data developed by the FI, there appears to be a need for additional soil sampling to determine the extent of contaminated soils, recommendations for a supplemental FI will be included in the FI Report.

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

HEARING/MEETING REGISTRATION

NAME (PLEASE PRINT LEGIBLY)	ADDRESS STREET	CITY	STATE	ZIP	ORGANIZATION REPRESENTED
Joe Hoover	PO Box 8913	LR	AR	72219	ADPC&E
R. K. Oberlitner	"				ADPC&E
John Wagner	PO Box 2749	W. Helena		72309	Cedar
Jeff Bennett	2754 Summer Trees	Memphis, TN		38134	EnSafe/Cedar
Allen T Malone	2110 One Commerce Square	Memphis		38103	Athy/Cedar
Dave Hartley					ADPC&E

Public hearing/meeting on Cedar Chemical Co. Date 7/7/93

Location ADPC&E HWD LR, AR Page __ of __

4349

The samples collected as part of this Area of Concern investigation will also satisfy the soil/sediment sampling requirement for NPDES Outfall #001. A map showing the location of each sampling point can be found in Figure 1-12.

1.4 Quality Assurance Plan

This document presents policies, project organization and objectives, functional activities and quality assurance and quality control measures intended to achieve data quality goals of the Facility Investigation to be performed by EnSafe at the Cedar Chemical Corporation site in West Helena, Arkansas.

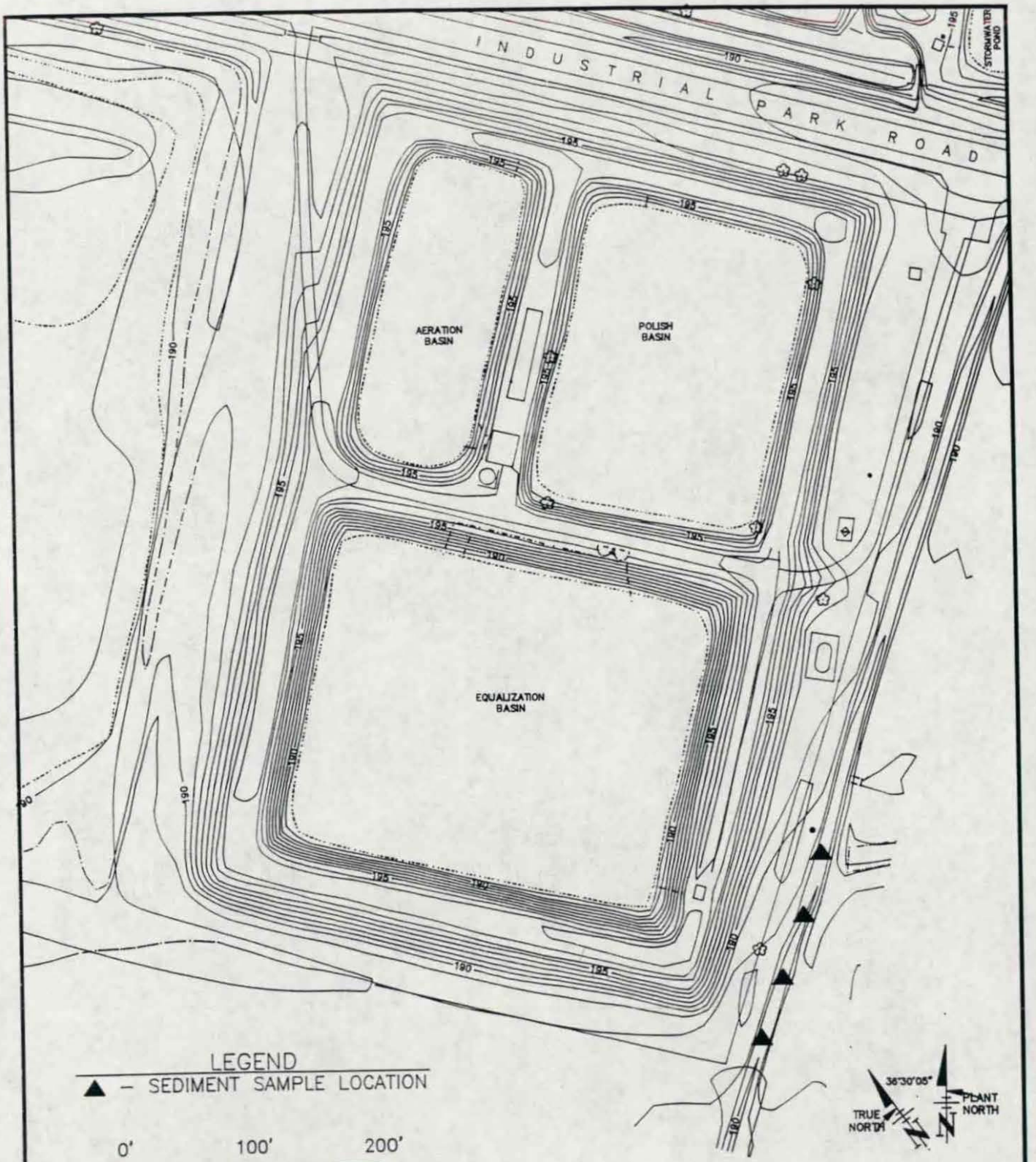
This document is intended to fulfill requirements for ensuring that all work will be conducted in accordance with quality assurance/quality control protocols and field procedural protocols for environmental monitoring and measurement data as established in:

- *Standard Operating Procedures and Quality Assurance Manual*, Environmental Compliance Branch, US EPA Region IV-ESD, Athens, Georgia, February 1991. (hereafter referred to as EPA SOP/QAM)

- *Test Methods for Evaluating Solid Waste SW-846*, Third Edition, USEPA/OSWER, November 1986. (hereafter referred to as SW-846)

Where specific EPA guidelines do not exist, applicable ADPC&E (or other relevant guidelines and methods) will be applied. These regulations are referenced in specific sections of this document (where applicable).

This work plan will be submitted to ADPC&E for review and approval. Cedar Chemical will provide written notification to ADPC&E at least five days prior to any field sampling activities in order to afford State personnel the opportunity to observe sampling procedures and split samples.



Environmental and Safety Designs, Inc.

EnSafe℠

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FIGURE 1–12
AOC #3
SAMPLING POINTS

DWG DATE: 10/06/92 | DWG NAME: CEDAR29

1.4.1 Project Quality Assurance Objectives

In general, quality assurance objectives of the project are to assess and document the precision, accuracy, representativeness, completeness, and comparability of all sampling and analysis performed. Quality criteria are set herein to assure suitability for intended use of data obtained during the project. The following discussion presents the project specific level of effort for Quality Assurance (QA), and data quality criteria.

1.4.1.1 Field Measurements

QA objectives for parameters to be measured in the field by EnSafe personnel are presented in Table 1-1. Field measurements will include pH, temperature, specific conductivity, static groundwater level, well point surveys (horizontal and vertical) and PID readings.

Table 1-1
Field Measurements

Measurements Parameter	Reference	Matrix	Precision (%)	Accuracy % Recovery	Completeness
pH	EPA 150.1[1]	Water	± 0.05 pH	± 0.2 pH	90
Temperature	EPA 170.1[1]	Water	± 0.1° C	± 0.2° C	90
Static Water Level	SOP[2]	Water	± 0.01 in.	± 0.005 in.	90
Photoionization Detector	SOP[3]	Air	± 10 ppm	± 20 ppm	90
Well Survey Points	SOP[4]	Spatial	± 5%	± 0.1 feet	90
	SOP[4]	Vertical	± 0.05 feet	± 0.01 feet	90
No specific conducitivity	EPA 120.1[1]	Water	± 10%	± 2%	90%

Notes:

[1] - Methods for Chemical Analysis of Water and Wastes, EPA-600/4/79-020, Revised March 1983.
[2] - Manufacturer's SOP for static water level measurement.
[3] - Manufacturer's SOP for operation of Photovac TIP II or HNu.
[4] - Standard Land Surveying Methods as employed by a State of Arkansas Registered Land Surveyor.

1.4.1.2 Sampling and Analysis for Contamination Level

Project QA objectives of analytical parameters for soil and groundwater will be as stipulated in the respective analytical methods, and as determined by the analytical laboratory's historical data quality evaluation for these methods. The laboratory selection process will ensure that laboratory method QA/QC standards are appropriate to meet goals for intended data uses. Anticipated QA goals for these methods are presented in Table 1-2. Upon selection of the contract laboratory for this activity, the laboratory's QAP will be submitted for inclusion as Appendix A.

Table 1-2
Laboratory Measurements

Measurement Parameter	References	Matrix	Precision[1] (%)	Accuracy[1] %Recovery	Completeness (%)
Volatiles	8240	Soil	±35	±40	90
Semi-Volatiles	8270	Soil	±35	±45	90
Chlorinated Pesticides	EPA Method 8080	Soil	±25	±35	90
Arsenic	EPA Method 6010	Soil	±25	±25	90
	7060	Water	±35	±25	90
Barium	EPA Method 6010	Soil	±25	±25	90
	6010	Water	±25	±25	90
Cadmium	EPA Method 6010	Soil	±25	±25	90
	6010	Water	±25	±25	90
Chromium	EPA Method 6010	Soil	±25	±25	90
	6010	Water	±25	±25	90
Lead	EPA Method 6010	Soil	±25	±25	90
	7421	Water	±25	±25	90
Mercury	EPA Method 7470	Soil	±25	±25	90
	7470	Water	±25	±25	90
Selenium	EPA Method 6010	Soil	±25	±25	90
	7740	Water	±25	±25	90

Table 1-2
Laboratory Measurements

Measurement Parameter	References	Matrix	Precision[1] (%)	Accuracy[1] %Recovery	Completeness (%)
Silver	EPA Method 6010	Soil	±25	±25	90
	6010	Water	±25	±25	90
Bicarbonate	Standard Method 406C	Water	±35	±55	90
Calcium	EPA Method 6010	Water	±25	±25	90
Chloride	EPA Method 325.3	Water	±35	±55	90
Fluoride	EPA Method 340.2	Water	±35	±55	90
Iron	EPA Method 6010	Water	±25	±25	90
Magnesium	EPA Method 6010	Water	±25	±25	90
Nitrate	EPA Method 353.2	Water	±35	±55	90
Sodium	EPA Method 6010	Water	±25	±25	90
Sulfate	EPA Method 375.4	Water	±35	±55	90
Ammonia	EPA Method 350.2	Water	±35	±55	90
Cyanide	EPA Method 9010	Water	±20	±25	90

Note:
[1] — Precision and Accuracy goals are subject to change based upon specific method data quality history for the analytical laboratory chosen.

1.4.1.3 Precision and Accuracy

Methods of assessing precision and accuracy of the field screening measurements are discussed in Section 1.4.9.1 of this document, and summarized in Table 1-1. Precision and accuracy goals for laboratory analytical procedures are discussed in Section 1.4.8.2.

1.4.1.4 Representativeness

The goal of this inspection is to assess the extent of soil, sediment and groundwater contamination, if any, to determine the most appropriate remedial option. By properly collecting soil and groundwater monitoring well samples, and measuring well parameters in accordance

with EPA SOP/QAM protocol; samples collected during inspections should be representative of the areas of concern.

1.4.1.5 Completeness

Completeness goals of field measurements reflect the ability to resample all existing and planned wells, and subsequent sample collection for groundwater quality criteria defined in the QA Plan (QAP). The completeness goals do take into consideration unavoidable non-attainment of QA goals which may occur over the course of the investigation. Efforts will be made, however, to maintain soil, sediment and groundwater data completeness levels above the 90% level if possible.

1.4.1.6 Comparability

Comparability is assured through the use of established methods of sampling and analysis by field technicians and the laboratory as specified in the EPA SOP/QAM as well as other accepted guidance documents. These methods are discussed in the project work plan as specified.

1.4.2 Soil Sample Analysis & Quality Assurance Considerations

All soil samples analyses will be performed in accordance with analytical methods documented in SW-846. Soil analytical requirements are provided in Table 1-3.

Table 1-3
Soil Analytical Requirements

Media	Analytical Methods
Soil	Volatiles — EPA 8240 Semi Volatiles — EPA 8270 Chlorinated Pesticides — EPA Method 8080 Arsenic — EPA Method 7060 Barium — EPA Method 6010 Cadmium — EPA Method 6010 Chromium — EPA Method 6010 Lead — EPA Method 7421 Mercury — EPA Method 7470 Selenium — EPA Method 7740 Silver — EPA Method 6010

1.4.2.1 Soil Sample Documentation

All soil samples will be documented in accordance with EPA SOP/QAM, Section 3.0 and as discussed in Section 1.2.6.2. EnSafe personnel will use bound logbooks for the maintenance of all field records pertaining to the investigation. These records will document all visual observations, calculations, and equipment calibrations. Every entry will be dated and the time for each entry noted. The logbooks are accountable documents that will be properly maintained and retained as part of the project files.

In addition, soil boring logs will be produced for all soil borings advanced on-site. Information to be included on boring logs includes (but is not limited to): total depth of boring, lithologic descriptions of each geologic formation encountered, blow counts for split spoon sampler penetration, water bearing zones, and any subsurface obstructions encountered during boring advancement (with explanations if available).

All field logs will be retained in their original condition in the EnSafe project file. For presentation purposes, all logs will be recreated using Computer-Aided Design (CAD) methods for inclusion in the investigation report.

1.4.2.2 Soil Sampling Equipment Decontamination

All equipment used in the collection of soil samples (i.e. hand auger, split spoon samplers, sampling rods, hollow stem auger flights, etc.) will be high pressure, steam cleaned before onsite activities begin. Decontamination of all augers and downhole equipment (i.e. auger flights, sampling rods, etc.) will be performed between each boring through steam cleaning detergent wash and potable water rinse. The hand auger will decontaminated between samples using a pressure steam wash, detergent wash, potable water rinse, isopropanol rinse, and final deionized water rinse. This procedure will be followed in order to minimize the potential for cross-contamination of soil samples. Disposable gloves will be worn during all sampling phases which require handling of samples. A new pair of gloves will be donned prior to handling of each sample.

1.4.3 Groundwater Sample Analysis & Quality Assurance Considerations

All groundwater sample analyses will be performed in accordance with appropriate EPA/SW-846 protocols. Groundwater samples will be analyzed as outlined in Table 1-4. In addition, pH, specific conductance, and temperature will be measured in the field for each sample collected.

Table 1-4
Groundwater Sample Analytical Requirements

Media	Analytical Methods	
Monitoring Well Water	Volatiles — EPA 8240 Semi Volatiles — EPA 8270 Chlorinated Pesticides — EPA Method 8080 Arsenic — EPA Method 6010 Barium — EPA Method 6010 Cadmium — EPA Method 6010 Chromium — EPA Method 6010 Lead — EPA Method 6010 Mercury — EPA Method 7470 Selenium — EPA Method 6010 Silver — EPA Method 6010	Bicarbonate — Standard Method 406C Calcium — EPA Method 6010 Chloride — EPA Method 325.3 Fluoride — EPA Method 340.2 Iron — EPA Method 200.7/6010 Magnesium — EPA Method 6010 Nitrate — EPA Method 300.1 Sodium — EPA Method 200.7/6010 Sulfate — EPA Method 300.1 Ammonia — EPA Method 351.2 Cyanide — EPA Method 9010

1.4.3.1 Groundwater Sample Documentation

All groundwater samples will be documented in accordance with EPA SOP/QAM, Section 3.0 - "Sample Control, Field Records and Document Control", and as discussed in Sections 1.4.4. EnSafe personnel will use bound logbooks for the maintenance of all field records pertaining to the investigation. These records will document all visual observations, calculations, equipment calibrations, weather conditions and location and time of collection for each sample. Every entry will be dated and the time for each entry noted. The logbooks are accountable documents that will be properly maintained and retained as part of the project files.

1.4.3.2 Groundwater Sampling Equipment Decontamination

All equipment used in measuring and sampling groundwater monitoring wells will be decontaminated in accordance with EPA SOP/QAM. Prior to initiation of site activities, it will be necessary for all bailers and the water level indicator to be decontaminated using a potable water/detergent wash, followed by a potable water rinse, isopropanol rinse and a final deionized water rinse. Drilling and sampling equipment will be decontaminated in the same manner between samples. This procedure will be followed in order to minimize the potential for cross-contamination of samples between sampling locations. Disposable gloves will be worn during all measurement and sampling activities. A new pair of disposable gloves will be donned for each water sample and/or measurement.

1.4.4 Sample Identification, Containers, Preservation and Labelling

Pre-cleaned sample containers will be provided by the laboratory. EnSafe will receive the containers from a laboratory that has followed EPA SOP/QAM approved glassware cleaning methods, and the containers will remain in the custody of EnSafe personnel. Labels will be affixed to each container after they have been packed with samples. Labels will include the following information: site and sample designation, sampling time and date, sample preservation, sampler identification and analytical methods. An outline of site-specific sample designations is provided in Table 1-5. Figure 1-13 is an example of the sample label that will

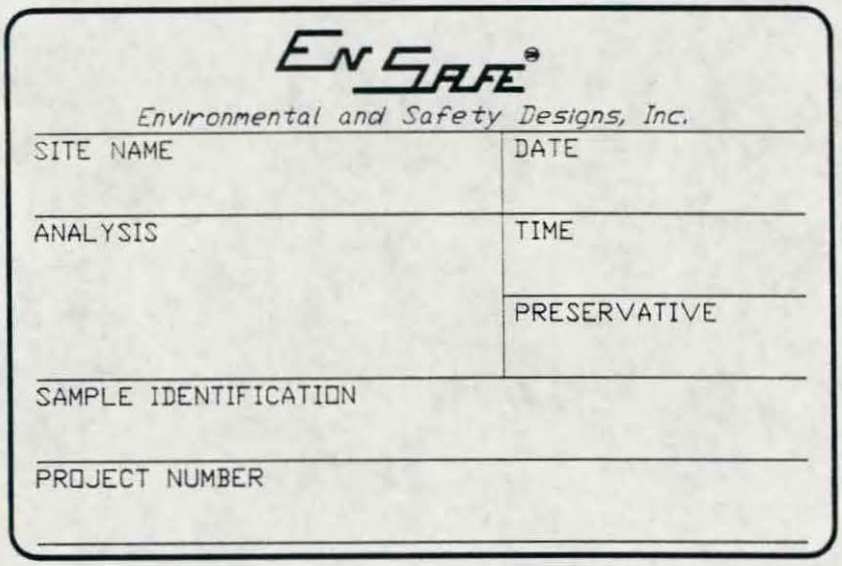

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FIGURE 1-13
SAMPLE BOTTLE LABEL

DATE:10/09/92 | DWG NAME: SAMPLABL

be used in this investigation. Sample containers, preservation methods, and holding times are summarized for each method in Table 1-6. When sample containers are filled at a site, the above mentioned forms will be completed.

Table 1-5
Sample Designation System

Location	Sample Type	QA Sample Type	Sample Location	Sample Depth
CEDAR = Cedar Chemical Corporation	GW = Groundwater SW = Surface Water S = Soil SD = Sediment W = Waste	RB = Rinsate Blank FB = Field Blank TB = Trip Blank DP = Duplicate	B = Boring MW = Monitoring Well HA = Hand Auger Boring (each to be followed by a number designation)	Numeric System (based on sampling interval depth)

Example: Water Matrix- CEDAR-GW-MW2 = Cedar Chemical Groundwater Sample from monitoring well 2
Solid Matrix- CEDAR-S-DP-HA4-1 = Cedar Chemical Soil Sample from hand auger boring 4 at a depth of 0 to 1 foot

Table 1-6
Sample Containers, Preservation and Holding Times

Analytical Method	Sample Matrix	Container Size/ Material	Sample Preservation	Holding Time
EPA Method 8240-Volatiles	Soil	8 ounce Glass Jar with Teflon-lined septa	Chill, 4°C	14 days until analysis
	Water	(3) 40 ml. vials with Teflon-lined septa	Chill, 4°C, pH < 2 with HCℓ	14 days until analysis
EPA Method 8270-Semi Volatiles	Soil	8 ounce Glass Jar with Teflon-lined septa	Chill, 4°C	Extract within 14 days, Analyze within 40 days
	Water	(2) One Liter Amber Glass Jars	Chill, 4°C	Extract within 7 days, Analyze within 40 days
EPA Method 8080-Chlorinated Pesticides	Soil	8 ounce Glass Jar	Chill, 4°C	Extract within 7 days, Analyze within 40 days
	Water	2.5 Liter Amber Glass Jar	Chill, 4°C, pH between 5 & 9	Extract within 7 days, Analyze within 40 days
EPA Method 6010 Unfiltered Metals	Soil	8 ounce Glass Jar	Chill, 4°C	Analyze within 6 months

Table 1-6
Sample Containers, Preservation and Holding Times

Analytical Method	Sample Matrix	Container Size/ Material	Sample Preservation	Holding Time
EPA Method 7000 Series - Unfiltered Metals	Water	500 ml HDPE/glass bottle	Chill, 4°C pH <, HNO_3	Analyze within 6 months
	Soil	500 ml HDPE Bottle HDPE/Glass	Chill, 4°C	Analyze within 6 months
EPA Method 350.2 Ammonia	Water	400 ml HDPE Bottle	Chill, 4°C pH<2, H_2SO_4	Analyze within 28 days
EPA Method 9010-Cyanide, Total	Water	1000 ml HDPE Bottle	Chill, 4° pH>12, NaOH	Analyze within 14 days
EPA Method 325.3 Chlorides	Water	100 ml Glass Vial	Chill, 4°C	Analyze within 28 days
EPA Method 340.2 Fluorides	Water	250 ml HDPE Bottle	Chill 4°C	Analyze within 14 days
EPA Method 375.4 Sulfates	Water	250 ml HDPE Bottle	Chill 4°C	28 days
Standard Method 406C Bicarbonate	Water	100 ml Glass Vial	Chill 4°C	N/D
EPA Method 353.2 Nitrate	Water	100 ml Glass Vial	Chill, 4°C	Analyze within 48 hours

Note: For soil matrices, samples required for multiple analyses may be obtained from a single 8 ounce container. Holding time begins immediately upon collection of sample.

ND — Not determined

1.4.4.1 Sample Chain-of-Custody

EnSafe will follow strict chain-of-custody procedures in accordance with EPA SOP/QAM Section 3.3 and corporate Standard Operating Procedures for chain-of-custody. EnSafe will use chain-of-custody forms, as illustrated in Figure 1-14, for transferring sample shipments to the laboratory. Documentation of all samples will also be kept in a project field logbook.

CHAIN OF CUSTODY RECORD

LABORATORY: _____

ATTENTION: _____

PROJECT NO.: _____

PAGE___ of____

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CLIENT NAME

COLLECTED BY

SAMPLE ID	DATE	TIME	comp	grab	well	SAMPLE LOCATION	#of containers	MEDIA (X) SOIL	WATER	SEDIMENT	GROUNDWATER	SAMPLE ANALYSIS (X)									REMARKS

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:

RELINQUISHED BY:	DATE	TIME	RECEIVED AT LAB BY:	DATE	TIME	REMARKS

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FIGURE 1-14
CHAIN-OF-CUSTODY RECORD

DATE:10/08/92 | DWG NAME: CUSTODY1

Upon transfer of custody, the chain-of-custody form will be signed by the EnSafe field sampling team leader, including the date and time the samples were relinquished. As common carriers will not sign chain-of-custody forms, the chain-of-custody records will be sealed within each shipping container. As an additional chain-of-custody safeguard, each shipping container will be provided with a custody seal, signed and dated by a member of the field sampling team, to ensure that the shipping container is not opened until it is received by the laboratory. All chain-of-custody forms received by the laboratory must be signed and dated by the laboratory sample custodian and returned to EnSafe following receipt, or as part of the data reporting package.

1.4.5 Calibration Procedures and Frequency

The analytical laboratory will perform analytical instrument calibration in accordance with the laboratory's SOP/QAP, and specific instrument methods by reference. All laboratory calibration procedures will be outlined in the laboratory's QAP manual.

EnSafe personnel will calibrate all field instrumentation in accordance to the manufacturer's recommendations. Field instruments listed below in Table 1-7 are anticipated to be used at some point during field activities. All equipment calibration and/or standardization procedures will be recorded in the field logbook and in the equipment logs, maintained at the home office in Memphis, Tennessee. Records shall include the source of the field standards with lot numbers and expiration dates, and a brief description of the procedures used. When necessary, the procedures will be recorded step-by-step into the records. Calibration frequencies of the field equipment used during field activities are summarized below in Table 1-7.

Table 1-7
Field Equipment Calibration

Equipment/Measurement	Calibration Method	Frequency
pH meter	2 standard solutions	daily
Temperature meter	Compared to NBS certified thermometer	quarterly
PID	standard gas	daily/each use
Specific conductivity meter	2 or 3 standard solutions (function specific)	weekly, daily if necessary
Chloride meter	1 standard solution	daily/each use

1.4.6 Analytical Procedures

This investigation will utilize the following analytical procedures.

1.4.6.1 Field Analyses

The boreholes for soil borings and monitoring wells will be monitored during drilling with a PID for volatile organic compounds. Static water level measurements will be taken on all monitoring wells subsequent to well development, allowing adequate time for well recharge. The wells will be checked with a PID prior to sampling to detect volatile organic vapors.

Monitoring well casing (tops) will be surveyed (spatial and horizontal orientation) by a State of Arkansas registered land surveyor. The survey measurements will be recorded relative to the USGS NAD '83.

All field measurements will be recorded in a dedicated field logbook and/or appropriate EnSafe field activity log (i.e. boring log, well construction log, etc.).

1.4.6.2 Laboratory Analyses

Soil and water samples collected during the course of this inspection will be analyzed by the EPA Methods listed in Tables 1-3 and 1-4. The detection limits for each analytical method are provided in Appendix B. Standard soil and water analyses were chosen in order to asses the nature and extent of potential contaminants in these media to meet the requirements of the Facility Investigation scope of work.

On all GC/MS analyses, EnSafe will require the analytical laboratory to report the Tentatively Identified Compounds (TICs) whose peaks are at least 5 percent greater than the internal standard. Those TICs will be compared to the laboratory's organic chemical spectra library in an attempt to positively identify the compounds. If a TIC can be matched to a known spectra, it will be added to the target analyte list for the investigation and quantified if possible.

1.4.7 Data Reduction, Validation, and Reporting

Laboratory procedures for data reduction, validation, and reporting will be conducted according to standard operating procedures as dictated by the requirements of the laboratory QAP, and the specific analytical methods.

Required internal QC checks and data validation procedures are described in Section 1.4.8.

EnSafe's use of the laboratory will be accomplished by a services agreement (contract). The contract will specify the scope of services to be performed by the laboratory, the specific analytical quality assurance requirements to be met, and the information to be developed and reported.

1.4.8 Field and Laboratory Quality Control Checks

Internal laboratory control checks used by the laboratory will be conducted in the laboratory by its staff. EnSafe will conduct internal quality control checks of sampling procedures and

laboratory analyses. These checks will consist of preparation and submittal of sampler rinsate blanks, trip blanks, field blanks, and field duplicates for analysis, and an evaluation of the laboratory analytical package. Data validation guidelines presented in EPA CLP guidance and/or established herein will be followed in evaluating reported data (for analyses for which these guidelines apply). For these methods, the QA/QC evaluation parameters listed in Tables 1-1 and 1-2 will be applied. The useability of data will be determined by evaluating the data packages with respect to these criteria.

1.4.8.1 Field Data Quality

All field work will be conducted and/or supervised by EnSafe personnel in order to ensure that proper procedures are followed. Field records will be kept of all activities that take place during the inspection and these records will be maintained at the EnSafe office in Memphis, Tennessee. These records will include any obstacles that may be encountered during the inspection.

Field samples will be collected per the procedures outlined in Field Sampling Procedures. Precision will be assessed by evaluating the results of duplicate and matrix spike duplicate samples, and accuracy will be assessed by evaluating the analyses of field blanks, trip blanks, laboratory matrix and surrogate spikes, and laboratory reagent blanks and blank spike samples.

A duplicate is an identical sample collected from the same location (i.e. well) at the same time under identical conditions. Duplicate samples are analyzed along with the original sample to obtain sample procedure precision and inherent sample source variability. (For this project field duplicate samples will be analyzed for all parameters except volatiles and semi-volatiles.) Volatile and semi volatile duplicates will be used for matrix spike and matrix spike duplicate analysis. Duplicate samples will be collected at a 20 percent frequency.

A field blank is a sample container filled with the source water used in the decontamination of equipment in the field. The field blank is prepared, preserved and stored in the same manner

as the other field samples. The field blanks are analyzed along with the field samples for the constituents of interest to check for contamination imparted to the samples by the sample containers or other exogenous sources. Two field blanks per sampling event will be prepared. One field blank will consist of potable water and one field blank will consist of deionized water.

Rinsate (or equipment) blanks are collected by retaining rinsate from sampling equipment. The equipment is rinsed with potable water and deionized water after full decontamination procedures have been performed. Rinsate samples are collected in containers of the same type and treatment as the sample containers. One rinsate blank will be collected from each investigation site per media sampled. Rinsate blanks will be analyzed along with the field samples for the constituents of interest to check for contamination imparted to the samples by the sampling equipment, containers, or other exogenous source.

A trip blank is a sample container filled with organic-free water that is transported unopened with the sample bottles. It is opened in the laboratory and analyzed along with the field samples for volatile constituents of interest. Trip blanks for all volatile parameters will be prepared and submitted to the laboratory with sample shipping containers at a frequency of one per sample shipping cooler.

The collection frequencies for quality control sample collection are summarized in Table 1-8.

Table 1-8
Quality Control Sample Collection Frequencies

Quality Control Sample	Frequency of Collection	Additional Sample Volume Required
Trip Blank (volatiles only)	One per sample shipping cooler	(2) 40 ml. glass vials with Teflon-lined septa
Rinsate Blank	One per investigation site/media sampled	A
Field Blank	Two per groundwater sampling event	A
Duplicates (metals and pesticides only)	One per 20 water and soil samples collected	A
Matrix Spike/Matrix Spike Duplicate Samples	One per 20 water and soil samples collected; matrix is to be the same sample used for duplicate analysis	B

Note: [A] adequate sample volumes should be collected to perform all aqueous analytical methods described for the area of investigation (see Table 1-6)

[B]Matrix spike/matrix spike duplicate analysis will be performed on volatile and semi-volatile constituents only.

1.4.8.2 Analytical Data Quality

Analytical data quality is assured through the use of SW-846 guidelines for QA/QC as set forth in the individual methods descriptions. The guidelines include analysis and evaluation of matrix spikes.

Matrix spike samples that are prepared by the laboratory are useful in assessing the accuracy of the analytical method and can detect matrix effects, in which other sample components interfere with the analysis of the contaminant of concern. The method of measuring analytical accuracy is percent recovery. Analysis of matrix spike duplicates will provide a basis for determining GC/MS method precision specific to the matrix under investigation. Precision is measured as relative percent difference (%) between duplicate analyses.

Analytical matrix spikes and matrix spike duplicates for GC/MS methods will be performed at a rate of one per sample batch (20 samples maximum) per matrix. Surrogate spikes are also used to determine the accuracy of the analytical method with respect to the matrix under

investigation. Surrogate spike compounds are compounds similar in chemical nature to the target compounds, but would not be expected in affected media (i.e. radioisotopically labelled compounds, etc.). These compounds are introduced into each sample prior to analysis. By comparing the reported results for these compounds with the quantities introduced, a percent recovery can be determined. This percent recovery data is subsequently used to assess the accuracy of results for target compounds within each specific sample. Surrogate spike analyses will be performed on each sample analyzed for organic parameters.

The choice of compounds to be used for matrix and surrogate spike purposes is generally stipulated by the analytical method employed. Appendix B presents compounds used for the purpose in performing SW-846 analyses, along with QA limits for each. Specific compounds used for outlined analyses will be dictated by the method and laboratory SOPs.

1.4.8.3 Field Data Package

The field data package will include all log books, field records and measurements obtained at a site by EnSafe personnel in accordance with EPA SOP/QAM, Section 3.0. The package, including all field records and measurements obtained at the site by EnSafe sampling personnel, is validated by conducting the following:

- A review of field data compiled on water and soil sampling logs for completeness. Failure in this area may result in the data being invalidated for litigation or regulatory purposes.

- A verification that field blanks, sampler rinsate blanks, and trip blanks were properly prepared, identified and analyzed. Failure in this area may compromise the analytical data package and result in some data being considered qualitative or invalid.

- A check on field analyses for equipment calibration and condition. Failure in this area may result in the field measurements being invalidated.

- A review of chain-of-custody forms for proper completion, signatures of field personnel and the laboratory sample custodian, and dates. Failure in this area may result in the data being invalidated for litigation or regulatory purposes.

The field data package will be reviewed by the project QA Officer for completeness and accuracy using the checklist in Appendix C as guidance.

1.4.8.4 Analytical Data Package

Validation of the analytical data package will be performed by the project QA Officer prior to submittal to the State. The validation steps will be performed by applying guidelines presented in the EPA Laboratory Data Validation Functional Guidelines for Evaluating Organics and Inorganics Analyses, Technical Directive Document No. HQ-8410-01, and EPA Precision and Accuracy statements for the analytical methods employed. An Analytical Data Validation Checklist (Appendix C) will be used as general guidance for data validation as applied to Volatiles and Semi-Volatiles, and Metals analyses. For analyses for which data validation guidance documents do not exist, the QA assessment parameters outlined previously in Table 1-2 will be applied.

The analytical data package validation procedure includes, but is not limited to, review of the following:

- Comparison of the data package to the reporting level requirements designated for the project, to confirm completeness.

- Comparison of sampling dates, sample extraction dates and analysis dates to check that samples were extracted and/or analyzed within the proper holding times. Failure in this area may render the data unusable.

- Review of analytical methods and required detection limits to verify that they agree with the QAPP and the laboratory contract. Non-compliance in this area without reasonable justification (i.e. severe matrix interferences) may render the data unusable.

- Review of field and laboratory blanks will be done to evaluate possible contamination sources. The preparation techniques and frequencies, and the analytical results (if appropriate) will be considered.

- Evaluation of all blanks (rinsate blanks, field blanks, trip blanks, reagent blanks, method reagent blanks and extraction blanks) must confirm freedom from contamination at the specified detection limit. All blank contaminants must be explained or the data applicable to those blanks labelled suspect and sufficient only for qualitative purposes.

1.4.8.5 Data Classification

The data will be classified by the Project Quality Assurance Officer based upon the level of reportables and the result of evaluating the field and analytical data packages.

The usability of collected data will be evaluated using the above-outlined guidelines. Should data validation identify unusable data or data of questionable reliability, data qualifiers will be assigned to each affected datum using USEPA CLP qualifiers. Subsequent use of qualified data will be restricted and when used, the uncertainty associated with the data will be documented.

As with the laboratory data validation, the classification of data is based on specifically defined criteria. Samples are evaluated by matrix against the specific class criteria and judged as acceptable, provisional, or unacceptable. The explanation of the judging criteria is as follows:

A - Acceptable:	All criteria have been successfully met for all samples.
P - Provisional:	Some samples have not fully met the criteria but the information is obtainable.
U - Unacceptable:	Criteria has not been met with any samples and is not obtainable. This data may not be classified for use unless sufficient other data criteria have been met and scientific judgment indicate the data may be useful if classified.

N - Not Applicable.

Data will be classified using the Data Classification Summary Checklist (Appendix C) as guidance. A report of the results of the Data Validation will be submitted to the Project Manager (see Section 1.4.13).

1.4.9 Performance and System Audits

Audits will be performed before and during the work to evaluate the capability and performance of the entire system of measurement and reporting. The following are parameters included in the system: experimental design, sampling (or data collection), analysis, and attendant quality control activities.

1.4.9.1 Field System Audits

The Site Project Manager is responsible for evaluating the performance of field personnel and general field operations and progress. The Site Project Manager will observe the performance of the field operations personnel during each kind of activity such as water-level readings and sampling rounds. The EnSafe Site Project Manager will be onsite throughout the duration of field activities, and will continually assess the proficiency of each field sampling team member to ensure compliance with the QAP protocol. Where applicable, these audits will also ensure that field operations are being conducted in accordance with EPA SOP/QAM guidelines.

1.4.9.2 Laboratory Systems Audit

A laboratory systems audit is routinely conducted (at least annually) by EnSafe. These audits test methodology and assure that systems and operational capability are maintained. They also verify that quality control measures are being followed as specified in the laboratory written standard operating procedures (SOP) and QAP. The Systems Audit Checklist used by the EPA CLP forms the procedural basis for conducting these audits.

Laboratory initiated audits will be conducted in accordance with guidelines set forth in the laboratory QA Plan as provided to EnSafe.

1.4.9.3 Performance Evaluation Audits

A performance evaluation (PE) is an audit performed to evaluate a laboratory's ability to obtain an accurate and precise answer in the analysis of known check samples by a specific analytical method. Following the analytical data validation, a performance evaluation audit of the laboratory may be conducted by EnSafe. This audit may be conducted if it is determined that the quality assurance data provided are outside acceptance criteria control limits. PE audits may include a review of all raw data developed by the laboratory and not reported (laboratory non-reportables) and the submission of blind spiked check samples for the analysis of the parameters in question. These check samples may be submitted disguised as field samples. In

this case, the laboratory will not know the purpose of the samples or the samples may be obvious (known) check samples, EPA or National Bureau of Standards (NBS) traceable.

PE audits also may be conducted by reviewing the laboratory's results from round-robin certification testing and/or EPA Contract Laboratory Program (CLP) evaluation samples. An additional component of PE audits includes the review and evaluation of raw data generated from the analysis of PE samples and actual field samples that may be in question.

1.4.9.4 Regulatory Audits

It is understood that EnSafe field personnel and subcontract laboratories are also subject to quality assurance audits by the ADPC&E. To ensure compliance with State laboratory requirements, an ADPC&E approved laboratory will be contracted to perform all sample analyses.

1.4.10 Preventive Maintenance

The sampling equipment employed by EnSafe during an investigation that may require preventive maintenance will be checked for proper operation before and after each use on a daily basis. These checks will be conducted at the beginning and end of each day. Any replacements or repairs will be made as needed in accordance with manufacturer's instructions. Critical spare parts, maintenance tools and/or replacement instruments will be carried to the site. Equipment or instruments potentially requiring preventive maintenance are listed in Table 1-10 along with the preventive maintenance requirements for each. Table 1-11 provides daily preventive maintenance procedures for field groundwater screening equipment to be used during the monitoring project.

All laboratory preventive maintenance will be conducted in accordance with their QAP and Standard Operating Procedures manual.

Table 1-9
Field Testing Equipment

Item	Manufacturer	Model Number	Serial Number	Preventive Maintenance
pH meter	Fisher	Accumet 956	3218	Manufacturer's Operating Manual
Thermometer	—	Platinum RTD	—	Visual inspection
Conductivity/ pH/temperature meter	YSI	3500	—	Manufacturer's Operating Manual
PID	HNu	—	—	Manufacturer's Operating Manual
Chloride meter	Dexsil	L2000	0271	Manufacturer's Operating Manual

Table 1-10
Preventive Maintenance for Field Equipment

Specific conductivity meter	
a. Each	Meter probes are cleaned before and after each use with distilled/deionized water. Before and after each use (daily) the instruments are checked with a commercial conductivity standard for proper calibration. The battery is checked for proper charge.
b. Quarterly	The instrument is inspected on a quarterly basis, whether used during the quarter or not. The inspection consists of a general examination of the electrical system (including batteries) and a calibration check. Instruments not functioning properly are shipped to the manufacturer for repair and calibration.
pH meter	
a. Each use	Before each use (daily), the probe should be checked for cracks in the electrode bulb and complete filling with electrolyte solution. At the beginning and end of any sampling day, the pH meter must be calibrated using two standard pH buffers. The battery is checked for proper charge. Following each use, the probe is rinsed with deionized water. The probe cap is filled with electrolyte solution and placed on the probe tip. Excess electrolyte is rinsed off and the probe dried with a paper towel. The instrument is then placed in its carrying case.

Table 1-10
Preventive Maintenance for Field Equipment

b. Quarterly	The instrument is inspected on a quarterly basis whether or not it has been used. The inspection consists of a general examination of the probe, wire, electrical system (battery check) and a calibration check. Any malfunctioning equipment is returned to the manufacturer for repair and recalibration.
Thermometer	
a. Each use	Before each use, thermometers are visually checked for cracks and mercury separation. After use, thermometers are rinsed with deionized or distilled water and placed in their protective case to prevent breakage.
b. Monthly	Thermometers are visually inspected as described above, whether used or not. They are checked against an NBS certified thermometer for accuracy. Precision, accuracy, and completeness by the laboratory will be outlined in the approved laboratory QA Plan.
Chloride meter	
a. Daily:	Since the electrode is the most sensitive component of the instrument, it is cleaned and checked on each day of use. The electrode is also checked for filling solution and is added as necessary. The entire instrument is cleaned on an as needed basis only.
b. Biannually:	The instrument is inspected, especially the electrode, for damage and proper operation. The instrument may be sent to the manufacturer for repairs and a calibration check at this time.

1.4.11 Specific Routine Procedures Used to Assess Data Precision, Accuracy, and Completeness

Precision is an estimate of the reproducibility of a method and is estimated by several statistical tests: the standard deviation of the error distribution, the coefficient of variation and the relative percent difference between replicate (duplicate) samples. EnSafe will determine the precision of a method by analyzing replicate data.

Precision is then defined by the coefficient of variation (CV), which expresses the standard deviation as a percentage of the mean. Relative percent difference, an indicator of CV, will serve as quality criterion for classification of data resulting from this investigation. Specific

statistical comparison of duplicate samples (field and laboratory), as a measure of precision evaluating both sample collection procedures and laboratory instrument performance, may be accomplished by first comparing the obtained duplicate results with the published EPA criteria for method precision (relative percent difference).

The accuracy of a method is an estimate of the difference between the true value and the determined mean value. Specific statistical comparison of percent recovery values reported by the laboratory as a measure of method accuracy will be compared with the published EPA (or other appropriate regulatory entity) criteria for the accuracy of an individual method. Another technique for evaluating the accuracy of a method is to use the Students t-test. This test identifies whether or not a significant bias is present.

Data completeness will be expressed both as the percentage of total tests conducted and required in the scope of work that are deemed valid. Methods for assessing data precision, accuracy, and completeness by the laboratory are outlined in Section 1.4.8 of this QAP.

Records of calibration and maintenance activities for each piece of equipment are contained in logbooks assigned to the equipment. Preventive maintenance to be performed by the analytical laboratory will be performed in accordance with the laboratory's SOPs.

1.4.12 Corrective Action

During the course of any investigation, field personnel are responsible for seeing that field instruments and equipment are functioning properly and that work progresses satisfactorily. The field personnel are also responsible for ensuring performance of routine preventive maintenance and quality control procedures, thereby ensuring collection of valid field data. If a problem is detected by the field personnel, the project manager shall be notified immediately, at which time problem correction will begin. Similarly, if a problem is identified during a routine audit by the

project QA officer or the regulatory QA officer (or NCR), an immediate investigation will be undertaken and corrective action deemed necessary will be taken as early as possible.

Examples of potential out-of-control situations include field instrument breakdown, mislabelling or loss of samples, inadvertent contamination of samples, or circumstances which preclude performance of field activities in accordance with the QAP (or other Work Plan documents). In the event of an out-of-control event, field sampling personnel shall make appropriate contacts (as outlined above), and document any and all remedial efforts taken to bring field activities under control. All variances or changes from QAP guidance are subject to approval by the EnSafe Site Project Manager (or his/her designated representative). If circumstances arise which will necessitate substantive changes in the protocols, methods, or techniques outlined in the Work Plan (and QAP), the ADPC&E will be contacted and all alterations will be documented and implemented with the State's written consent. A detailed description of the out-of-control event and remedial actions will be entered into the field logbook along with justification for the same.

In the event that corrective action is required by the analytical laboratory, it should be conducted in accordance with their QA Plan following guidelines provided in SW-846.

1.4.13 Quality Assurance Reports to Management

Quality assurance reports will be submitted to EnSafe management and ADPC&E in accordance with the following schedule.

1.4.13.1 Internal Reports

The EnSafe QA Officer will provide status reports to the Project Manager. The reports address the following, as applicable during the course of the project:

- Quality assurance activities and quality of collected data
- Equipment and calibration and preventive maintenance activities

- Results of data precision and accuracy calculations
- Evaluation of data completeness
- QA problems and recommended and/or implemented corrective actions. Results of corrective action taken.
- QA performance and system audit findings

1.4.13.2 Reports to ADPC&E

Cedar Chemical Corporation will provide a data quality assurance summary (QC Data Report) within the draft Facility Investigation Report for submittal to ADPC&E. A draft FI must be submitted to ADPC&E no later than 60 days after the end of the field investigation. A draft final FI report, to be reviewed by ADPC&E will be submitted within 30 days, and the final FI report is due within 30 days of the approval of the draft.

EnSafe®
Environmental and Safety Designs, Inc.
P. O. BOX 341315, MEMPHIS, TN 38184-1315
(901) 372-7962
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DATE: 7-6-93

TO

Name: Mr. Joe Hoover (501-562-2541)

Company: ADPC+E - Haz. Waste Enforcement

FROM

Name: Jeff Bennett

Total number of pages (including cover sheet): 5

COMMENTS

The following transmittal contains Cedar Chemical's responses to ADPC+E's comments on the FIWP. John Wagner, Allen Malone, + myself will be at your office at 1:00pm tomorrow to discuss the comments.

Cedar Chemical Corporation
West Helena Plant
Response to Comments

Comment	Response
1	IT Analytical Services has been selected to perform the laboratory analyses for the Facility Investigation. A copy of the laboratory quality assurance plan will be submitted to ADPC&E on July 7, 1993.
2	Following a review of the recently discovered documents, Cedar will investigate any former drum disposal areas that are not currently included in the sites being investigated.
3	An Arkansas registered geologist with EnSafe will be present during all monitoring well drilling activities and will prepare and sign boring logs for each well.
4	As stated in Sections 1.2.6.5 and 1.2.8, all water purged from the monitoring wells will be containerized in DOT-17H 55-gallon drums. Analyses of corresponding groundwater samples in accordance with the FIWP will be used to determine if the purged water should be treated as hazardous waste. Hazardous waste will be stored on the site less than 90 days and sent to a hazardous waste disposal facility and non-hazardous waste will be sent to the on-site water treatment facility.
5	As stated in Section 1.4.5 all field instruments will be calibrated at the beginning and end of each day according to the manufacturer's standard operating procedures.
6	Decontamination procedures will be performed within a field portable decontamination station. Typically, this portable configuration consists of 4 rigid wall members (usually 12 foot long 2x6 timbers) butt-nailed together, several layers of 6 mil poly sheeting (Visqueen), and a support stand for augers and drill tools. Once the wall members are connected to form a 12 by 12 foot area, a sump is dug in the downgradient corner of the decon area. The decon area is covered with 2 to 3 layers of 6 mil poly sheeting and an electric centrifugal (or similar) pump is placed in the sump. All rinse water generated during decon procedures will be pumped to 55-gallon drums for characterization until final disposal options can be identified.
7	The integrity of all existing groundwater monitoring wells will be verified by an Arkansas Registered Geologist prior to sampling. Integrity checks will consist of a visual inspection of the above grade components of each well followed by a comparison of the existing groundwater level and total well

depth to the respective levels recorded after well completion. The integrity of each existing monitoring well will be recorded in the field log book. The decision of whether or not an existing well will provide accurate defensible data will be the sole responsibility of the project geologist.

As stated in Section 1.2.6.3 of the workplan all monitoring wells will be surveyed by a State of Arkansas registered land surveyor to the nearest 0.01 foot incorporating USGS NAD '83.

8 As stated in Section 1.2.6.3 all monitoring wells will be surveyed to the top of the casing to the nearest 0.01 foot. Groundwater elevations will be calculated from the permanent mark on the top of each well casing.

9 Well abandonment procedures for the existing monitoring wells adjacent to the wastewater treatment ponds and the old production well will consist of the following:

- If possible, measure and record the existing water level and total depth of each well.
- For above ground completions, cut and remove the protective cover flush with the concrete pad.
- Install a gasket/flume device to collect displaced groundwater.
- Pressure grout the well casing from the bottom to within 2 feet of the surface using a properly sized tremie pipe. Grout mixture will consist of Portland Type I cement and 4 to 7 percent bentonite powder by weight.
- Cut the well casing off flush with the concrete pad. Fill the remaining 2 feet of well casing with concrete, and finish flush with the existing concrete pad.

(10) As per the approved CAO, the purpose of the FI is to determine the nature and extent of contamination on the Cedar Chemical property. If results of the FI indicate a need for additional sampling or well installations, recommendations for these activities will be included in the FI report which is due 60 days after completion of the Facility Investigation.

(11) Cedar will use the statistical methods established by the USEPA in "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities - Interim Final Guidance" to determine if groundwater at the facility has been impacted. These procedures are consistent with the criteria recommended by ADPC&E in their comments dated May 20, 1993.

12 Following completion of the FI, Cedar Chemical will, if conditions warrant, expand the scope of the investigation, including, if necessary, sampling off-site private wells.

13 As stated in Section 1.2.6.3 of the workplan, Cedar will install additional nested wells in any water-bearing zones encountered above the alluvial aquifer.

14 If water-bearing zones are encountered above the alluvial aquifer at this unit then clustered wells will be installed. No clustered wells will be installed in areas where no perched water is encountered.

15 Analysis of sediment from the wastewater treatment ponds for all Toxicity Characteristic constituents was included in the workplan in direct response to a comment by ADPC&E in their "Notice of Deficiencies" dated January 23, 1992. In response to this comment, we will analyze the sediment samples for the same parameters being used for other soil/sediment samples.

16 Activities associated with the API Separator are described in the response to Comment #22.

17 All samples will be screened with a photoionization detector to detect volatile non-halogenated compounds in addition to the chloride screen to detect chlorinated compounds.

18 Two additional groundwater monitoring wells will be installed in the vicinity of this site. A map showing the locations of the additional wells will be submitted to ADPC&E on July 7, 1993.

19 As noted in Section 1.3.7, Cedar will install soil borings in the area where the dinoseb disposal pond is believed to have been located. If located, the vertical and horizontal extent of the contamination will be delineated.

20 Since dinoseb produces a visible yellow stain in soil at very low concentrations, visually screening soil would be more likely to produce "false positive" indications of contamination than a "false negative" indication that may cause dinoseb contamination to be overlooked. Confirmation samples will be collected in the vicinity of the disposal ponds and submitted to the laboratory for dinoseb analysis.

21 Following a review and verification of ADPC&E's information concerning previous uses of this area as an overflow area for the wastewater treatment ponds, Cedar Chemical will prepare a soil sampling plan for this area.

22 In February 1992 Cedar Chemical installed a gutter around the API Separator to prevent occasional overflow when the separator became clogged. The interior and exterior of the separator was steam cleaned and stained dirt was

graded off the back side of the equalization basin berm. No samples were collected of the excavated soil since it was determined to be DCA contamination by generator knowledge. The excavated soil was placed in approximately 10 drums and sent to the Chemical Waste Management Subtitle C landfill in Carlyss, Louisiana with material from the ongoing DCA solid waste stream.

In February 1993 Cedar Chemical installed a new API Separator to replace the old one.

It should be noted that the adjacent landowner, Norak, owns the ditch that the API Separator overflowed into. Between February 1992 and February 1993, Norak enlarged the ditch removing the original dirt from this area of the ditch. However, soil samples will be collected from the ditch and the berm of the equalization basin as part of Area of Concern #3.

23 Table 1-4 will be corrected and submitted to ADPC&E on July 7, 1993.

24 Table 1-6 will be corrected and submitted to ADPC&E on July 7, 1993.

25 The 7000 series analytical methods will be used for these metals to obtain a groundwater detection limit below the MCL.

26 The only areas identified in the Wormald depositions as potentially containing hazardous substances were the dinoseb disposal ponds which are being investigated as described in Section 1.3.7 of the FIWP; the drum burial areas which have already been remediated; and other areas which are already included among the SWMU's under investigation in the FIWP. Other than these SWMU's, Cedar is unaware of any areas identified in the depositions which appear to have involved the disposal of any hazardous waste

27 If, based upon data developed by the FI, additional activities are needed to develop the relationships between contaminated media at the site, a plan for these activities will be provided at that time.

28 If, based upon data developed by the FI, groundwater contamination is encountered at the site that will require remediation, all necessary information required to develop a corrective measure for groundwater will be provided, including, if necessary, implementation of a supplemental FI.

29 If, based upon data developed by the FI, there appears to be a need for additional soil sampling to determine the extent of contaminated soils, recommendations for a supplemental FI will be included in the FI Report.

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

June 30, 1993

Mr. Joe Hoover
Enforcement Branch Manager
Hazardous Waste Division
Arkansas Department of Pollution Control & Ecology
P.O. Box 8913
Little Rock, AR 72219-8913

Re: Facility Investigation Progress Report - Second Quarter 1993

Dear Mr. Hoover:

In accordance with Consent Administrative Order (CAO) LIS 91-118, Task V:B of the Scope of Work for a Facility Investigation, this progress report is submitted for the second quarter of 1993.

Conditional approval of the Facility Investigation Work Plan was received on June 7. Cedar intends to respond to all items, and turn over additional requested information, during the meeting scheduled in your offices on July 7 at 1 PM.

Sincerely,

John Wagner

cc: Ms. Pat Crossley, Attorney, ADPC&E
Mr. Randal Oberlag, NPDES Enforcement, ADPC&E
Mr. Randal Tomblin, Organics Division President, Cedar
Mr. David Hoppel, Plant Manager, Cedar
Mr. Allen Malone, Attorney, Cedar

CEDAR CHEMICAL CORPORATION

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June 30, 1993

Mr. Randal K. Oberlag
Enforcement Engineer
NPDES Enforcement Section
Arkansas Department of Pollution Control & Ecology
P.O. Box 8913
Little Rock, Arkansas 72219-8913

Re: NPDES Consent Administrative Order Progress Report - Second Quarter 1993 (Task 15)

Dear Mr. Oberlag:

In accordance with Consent Administrative Order (CAO) LIS 92-198, Item 6 of the Order and Agreement Section, this progress report is submitted for the second quarter of 1993.

The following sequence of events occurred during this time period:

1. April 26 - Submitted Stormwater Retention System Plan to PC&E

2. May 10 - Commenced construction of the Stormwater Retention System

3. June 9 - Removed the 10,000 gallon/day boiler blowdown stream from the biotreatment system and began sending it to the Helena POTW

4. June 14 - Sent samples of the DCA wastewater to Entek Laboratory for hydrogen peroxide pre-treatment studies

Initial excavation work involved enlarging the drainage ditches, re-contouring and flattening soil areas, and planting grass to reduce sediment in the runoff.

A portion of the process wastewater transfer line to the biotreatment system was replaced and relocated. The adjacent

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JERRE G. DUZANE
JOHN B. MAXWELL, JR.
ALLEN T. MALONE
PHILIP G. KAMINSKY
ROBERT L. DINKELSPIEL
HENRY L. KLEIN
ROSS B. CLARK II
JAMES F. RUSSELL
JOHN L. RYDER
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June 8, 1993

Mr. Joseph M. Hoover
Enforcement Administrator
Arkansas Department of Pollution
Control & Ecology
Hazardous Waste Division
8001 National Drive
P. O. Box 8913
Little Rock, Arkansas 72219-8913

Re: In the Matter of: Cedar Chemical Corporation
West Helena, Arkansas, No. LIS 91-118

In the Matter of: Cedar Chemical Corporation,
No. LIS 92-198

Dear Mr. Hoover:

I received a copy of your letter of May 21, 1993 addressed to John Wagner of Cedar Chemical Corporation and would like to offer a few comments and suggestions.

First, you state in your letter that ADPC&E and Cedar Chemical "determined that an imminent danger to human health and the environment exists" with respect to the level of 80 ppm of dinoseb in soil. Cedar never made such a determination nor to my knowledge has ADPC&E made that determination. Cedar's consultant, Woodward-Clyde, proposed that concentrations of DNBP greater than 80 ppm in soil adjacent to the buried drums which were excavated pursuant to the CAO be transported to a RCRA-Permitted Facility for disposal. (See Section 5.0 of the Removal Action Work Plan which was specifically approved by ADPC&E in Paragraph 7(g) of the CAO.) Woodward-Clyde proposed 80 ppm as an appropriate clean-up level based solely on EPA's interim final RCRA Facility Investigation Guidance Document (EPA 530/SW-89-031-Table 8.7 "Health-Based Criteria for Systemic Toxicants"). While ADPC&E and Cedar did agree on this clean-up level for purposes of implementing the initial Drum Removal Plan pursuant to the CAO, Cedar at no time

determined or suggested that the presence of dinoseb at such levels in subsurface soils on the site would pose an imminent danger to human health or the environment. However, some clean-up level had to be selected and since the guidance document referred to above provided the only guidance on the subject, 80 ppm was the level selected.

Your letter also states that ADPC&E expects "immediate remedial actions for areas where the dinoseb level is above 80 ppm." Regardless of whether or not that is a reasonable expectation, I would point out to you that the implementation of Cedar's Facility Investigation Work Plan (FIWP) will disclose if there are any such areas. In any event, it is surprising to me that you would suggest that Cedar should take "immediate remedial actions" to deal with dinoseb contamination above 80 ppm in view of John Wagner's request in early 1992 that Cedar be allowed to excavate and remove soil on the plant site which was visibly contaminated (though at an unknown level) in connection with Cedar's implementation of the Drum Removal Plans - a request which ADPC&E denied at that time. I hope that you can understand why your May 21 letter might cause some confusion on our part.

I would also like to point out that there was never any doubt that the dinoseb contamination in soil adjacent to the buried drum sites had to be characterized and treated as PO20 wastes under RCRA. The same cannot be said, however, for dinoseb contamination which may be found to exist in other areas of the plant, which cannot be traced to discarded product and which just as well could have been caused by dinoseb waste water (which is not a listed hazardous waste) discharged by Ansul when it operated on the plant site over twenty years ago. In any event, the scope of remedial action must be determined under the CAO after the Facility Investigation Work Plan has been implemented and the results thoroughly analyzed.

With specific regard to the paving of the parking lot, Cedar understood that ADPC&E would be addressing the possibility that subsurface soils in that area might require remediation of some type. While we believe the levels of contamination which ENSAFE found to exist do not indicate a need for removal of the soils, that is an issue which, among others, will have to be addressed in accordance with the procedures set out in the CAO.

Frankly, at the time the CAO was entered in 1991, I was certain that, by now, Cedar would have completed implementation of the FIWP and begun final remedial action long before now. Instead, Cedar just received this week ADPC&E's conditional approval of the

second draft of Cedar's FIWP which was submitted four months ago. The six pages of comments constituting the conditional approval have been forwarded to Cedar's Consultant, ENSAFE. In hopes that we can reach a complete meeting of the minds regarding the FIWP and resolve any issues which are contained in the Department's comments received this week without further delay, I propose a meeting in your office on or about July 7, 1993 to be attended by Cedar's representatives, a representative of ENSAFE, and any persons with ADPC&E whom you believe should attend. Assuming (which I do) that we can reach full agreement on the FIWP at that meeting, Cedar's contractor is prepared to begin implementation prior to the end of July with the expectation of completing the investigation and issuing its report to ADPC&E prior to the end of this year.

Finally, this is to advise that Cedar is continuing to carry out the tasks required of it under the CAO entered in LIS No. 92-198. John Wagner has previously undertaken to submit to the Hazardous Waste Section copies of any plans detailing tasks to be implemented under LIS No. 92-198 and likewise, plans outlining implementation of LIS No. 91-118 will be submitted to the NPDES Section in an effort to avoid any conflicts or misunderstandings. Accordingly, I am copying Randal Oberlag on this letter as well as Pat Crossley, as required under the CAO in LIS No. 91-118.

I hope to see you in July. Incidentally, I would appreciate it if you would make available to me at that time the ADPC&E files referred to in Paragraph 5 of your letter of December 15, 1992, as requested in my letter to you of January 18, 1993.

Sincerely yours,

Allen T. Malone

ATM:jw

Enclosures

cc: Mr. Randal Oberlag
Ms. Pat Crossley
Mr. John Wagner

File

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
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Certified Mail Return Receipt
P 905 079 272

June 1, 1993

Mr. John Wagner
Environmental Engineer
Cedar Chemical Company
West Helena Plant
Highway 242
West Helena, AR 72390

RE: Conditional Approval of Workplan

Dear Mr. Wagner:

The Department reviewed the RFI Workplan dated for the Cedar Chemical Company (Cedar) January 22, 1993, and determined the plans to be conditionally complete. The conditions for approval of the Workplan are attached. Cedar must respond to the conditions for approval within thirty (30) days of the receipt of this letter.

If the response to the conditional approval is not sufficient, the Department reserves the right to modify the workplan. The modified work plan will then be the approved workplan.

Sincerely,

Joseph M. Hoover
Manager, Enforcement Branch
Hazardous Waste Division

cc: Mike Bates, Chief, HWD
Phillip Murphy, HWD
Jerry Williams, HWD
David Hartley, HWD

PM:cw wagnr.601

Enclosure

Cedar Chemical Corporation
Conditional Approval
RFI Workplan
May 20, 1993

1. Cedar must submit a laboratory quality assurance plan within thirty (30) days.

2. Recently discovered documents at ADPC&E indicate drums were uncovered during the construction of Unit 4. Cedar will investigate this area.

1.2.6.3. Monitoring Well Installations

3. An on-site Arkansas Registered Geologist should be present during all monitoring well drilling activities. This individual is responsible for logging the borehole, proper identification of water bearing zones, selection of the screened interval, and choosing the appropriate type of well to construct. All boring logs should be signed and dated by this individual.

1.2.6.4. Monitoring Well Development

4. All water purged from the wells must be properly disposed of and not placed onto the ground or allowed to run-off into surface waters.

1.2.6.5 Ground water Sampling

5. Cedar must submit procedures for calibrating the portable field instruments with standard solutions and the frequency for doing so prior to use within thirty (30) days.

1.2.7 Decontamination Procedures

6. Cedar must describe how the decontamination area will be constructed to prevent possible contamination to the area.

1.3.1 Ground water Quality Assessment Plan (GWQAP)

7. Cedar must include provisions for evaluating the existing wells and piezometers to determine if they are suitable for use prior to sampling. Upon construction of new wells, all new and existing wells and piezometers should be surveyed by an Arkansas licensed surveyor, who should certify that the top of casing elevations are surveyed to the nearest hundredth of a foot in a horizontal plane. A layout plan showing all wells must be provided.

8. Cedar is advised that previous well and piezometer reports reference top of ground surface elevations rather than top of casing elevation, which is where the measurement is made. Piezometers were certified only to the nearest tenth of a foot rather than the nearest hundredth of a foot, which is required. The Department has found no evidence of ground water elevations being adjusted for the difference between ground surface and the top of the well casing. Considering this fact, the accuracy is highly questionable for the purpose of determining ground water flow direction.

9. Cedar must submit procedures for plugging and abandonment methods to be followed. It was also recommended previously that Cedar plug and abandon the old production well, which has not been used in several years.

10. The purpose of the GWQAP is to define the nature and extent (horizontal and vertical) of contaminants which emanated from the site. It is to be understood that this may involve the assessment of ground water contamination beyond the facility boundaries with the installation of additional wells. This may be through a phased approach. Cedar must propose to the Department a schedule to submit supplemental work plans, implement the work, and report the findings of the additional work.

11. Cedar must define what is considered evidence of contamination, which will require further implementation of the GWQAP. The Department concludes that the site has impacted ground water quality, based upon the data submitted by Cedar and obtained by the Department. The recommended criteria is listed below:

    a. Parameters or constituents exceed EPA Primary Drinking Water standards and/or Secondary Drinking Water Standards and determined to be statistically significant, when compared to background water quality, utilizing an approved statistical method. Cedar shall choose one of the statistical methods defined in §40 CFR 264.97(h).

    b. Statistically significant and deemed necessary by the Department. The facility may offer an explanation to the Department as to the cause for statistical significance and propose a course of action, which is subject to approval. The Department may split samples during any resampling or sampling event for consideration in making the determination.

    c. The facility may propose to use parameters and constituents which are reliable indicators of contamination during subsequent monitoring events and investigations for the purpose of completing the ground water quality assessment plan (GWQA). Any parameter or constituent and its intended use is subject to Departmental approval. The number of samples shall be appropriate for the statistical test chosen.

    d. For the purpose of the initial investigation, any organic constituent detected in downgradient wells that is not detected in upgradient wells is considered evidence of contamination. The facility may resample the affected well to verify the results. If the facility chooses not to resample, or if the resampling confirms contamination, this will form the basis for initiating additional investigations as deemed necessary by the Department.

e. The facility shall continue to make these determinations at least quarterly, until the nature and extent of contamination is determined. Each time this is reported, the facility shall propose to the Department a course of action. Upon approval, the facility shall implement the approved course of action.

12. The facility shall notify, in writing, property owners who are determined to be within or likely affected by any plume of ground water contamination that has emanated from the site. Any private wells on the affected properties shall be identified. The facility shall offer to sample such private wells or attempt to gain access to properties for the purpose of installing monitoring wells as necessary to complete the objectives of the GWQAP. Cedar shall offer to plug any private well determined to be contaminated by this plume.

13. The GWQAP must include provisions for the installation of well clusters when necessary to define the vertical extent of contamination. Well cluster 6, which was installed in a previous investigation, indicates anomalous water levels (mounded or perched conditions). Contamination was also detected by ADPC&E in each screened interval. Therefore, the GWQA must also further characterize the hydrogeology and migratory pathways. It is possible that some of the existing piezometers are suitable for sampling as monitoring wells in the preliminary investigation. It is also noted that MW-6 exhibits higher TOC and TOX values than MW-6A, which indicates the possibility of a deeper plume of contamination that must be investigated.

1.3.2 Site #1

14. One well cluster shall be installed during this first phase of ground water investigation at this area. Previous reports by Cedar (August 23, 1990, letter from Joe Porter, et al) indicate that perched conditions or mounding in the ground water are likely at this unit.

15. TCLP analysis of the sediment may determine if sediment is characteristically hazardous, but is not adequate for evaluating all contaminants which could be impacting ground water quality. It is also noted that RCRA waste codes F002, F005, P066, P106, and U020 were historically allowed (Part A Application) for treatment in the impoundments, although unknown to be actually be treated. In addition, Cedar states in the DOCC that API separator sludge has routinely been allowed to discharge into the treatment plant and has not characterized this waste. It is also noted in the previous pond sediment analysis that toluene, xylene, and ethylene dichloride were reported in most sediment samples. The analysis of samples from these SWMU's should be expanded to evaluate the potential for contamination to escape from the unit.

16. Cedar must investigate the tank which was previously used to store API separator sludge. No information has been presented to document the date of last use or the closure of the tank.

1.3.3 Site #2

17. ADPC&E believes that biasing sampling results solely to relative chloride concentrations is not be suitable for all constituents of concern. It is noted that high concentrations of non-halogenated organics were also reported in the previous investigation (Ecology and Environment 1986). Station H-2 in that investigation reported high concentrations of non-halogenated solvents without the detection of chlorinated compounds. Volatile organics must be biased independent of chloride content.

1.3.5 Site #4

18. Existing ground water monitoring locations are located a considerable distance from this site and may be influenced by other SWMU's. This part of the plant requires additional ground water investigations. The existing monitoring well locations will yield inconclusive data on the impact of this SWMU to ground water. Cedar must submit a proposal for ground water monitoring system for this area within thirty (30) days.

1.3.7 Site #6

19. The Department is very concerned with the possibility of an unidentified impoundment that was used for disposal of dinoseb production wastes in 1972 as a continuing source of contamination. All existing information was reviewed and it is believed that this impoundment may be located west of the maintenance shop and north of the first drum disposal area. It is also believed that routine discharges, due to the lack of a discharge permit, may have led to more extensive contamination of surrounding soils. Cedar must investigate this area for the following reasons:

    1. The Site Characterization Report DCA Process Area, June 1990, revealed high concentrations of dinoseb (greater than the 80 ppm threshold value previously used) in borings B2-5 and C1-5. Concentrations exceeding 36,000 ppm were reported by Cedar in C1-5 at 0-5′ and greater than 18,000 ppm in the 5-10′ interval.

    2. A magnetometer survey was also conducted in this investigation. A major anomaly is evident in the northwest portion of the survey. An explanation of this anomaly has not been presented to the Department. It was reported that at least one trench was done within this anomalous zone. However, no information was reported from that particular trench. It was also reported that the data had been corrected for sources of magnetic noise.

3. Trench T-1 in this investigation is also noted to have high levels methoxychlor (93.76 ppm), 3,4DCNB (444.8 ppm), and other contaminants.

4. Information was submitted in a Part B permit application indicating a "highly contaminated area" in this vicinity.

20. Cedar states that yellow staining does not necessarily represent high levels of contamination, yet proposes to investigate the presence of the unidentified impoundment based solely upon visual observations. A relationship between concentration and yellow staining has not been established at this time.

1.3.8 Site #7

21. Cedar has no basis for deleting this SWMU from the investigation. The Department has established historical usage of this unit by eye witnesses. ADPC&E personnel have identified the wetland area as an area that served as a temporary holding pond while repairs were being made to the wastewater treatment area. The area received storm water runoff from the old waste water treatment area as seen by aerial photographs and the area could have received intentional releases of the material in the wastewater treatment area when the ponds were in danger of over-topping the berms. The workplan must include sampling in this area.

1.3.9 Site #8

22. Cedar must either provide data indicating that contamination observed by ADPC&E around the API separator was cleaned up (including verification analysis) or sample at this unit. All analytical data for disposal and clean-up must be submitted for further consideration.

1.4.3 Ground water Sample Analysis & Quality Assurance

23. Table 1-4 lists different analytical methods than section 1.3.1 (GWQAP). This must be rectified.

24. Table 1-6 lists different analytical methods than section 1.3.1. This must be rectified.

Appendix B

25. Although metal analysis proposes more than one analytical method, methods 200.7/6010 quantitation limits for arsenic, lead, and selenium exceed primary drinking water standards. All limits used must be less than primary drinking water standards.

Appendix D

26. The FIWP does not propose to investigate the SWMU's which were

identified in the depositions obtained in the Wormald suit. Cedar must investigate these SWMU's. Cedar must file a plan to investigate these SWMUs within thirty (30) days.

General Comments

27. The workplan is somewhat vague as to how the data will be used to evaluate when corrective action is required for contaminated soil. For example, the relationship between soil contamination and resulting surface water contamination or ground water contamination is not delineated. The selection of action levels must be based upon the actual potential of intermedia transport. The Department will require additional investigation, if necessary, to accomplish this relationship.

28. The workplan does not adequately further characterize hydrogeologic conditions to the extent necessary to develop a corrective action plan for ground water. The Department will require additional phases to accomplish this as determined necessary through the implementation of the GWQA if the Department considers it necessary.

29. Cedar must submit a plan for evaluating the need for further investigation of the extent of contaminated soils.

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

Joe

May 24, 1993

Mr. Randal K. Oberlag
Enforcement Engineer
NPDES Enforcement Section
Arkansas Department of Pollution Control & Ecology
P.O. Box 8913
Little Rock, Arkansas 72219-8913

Re: NPDES CAO LIS 92-198

Dear Mr. Oberlag:

In response to your letter of May 18 (enclosed), Cedar Chemical hereby reports that construction on the stormwater retention system upgrade (Task 14) commenced on May 10, 1993.

Sincerely,

John Wagner

cc: Mr. Joe Hoover, Hazardous Waste Enforcement, ADPC&E
Mr. Randal Tomblin, Organics Division President, Cedar
Mr. David Hoppel, Plant Manager, Cedar
Mr. Allen Malone, Attorney, Cedar
Mr. Bruce Shackleford, Consultant, ECO Inc.

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
PHONE: (501) 562-7444
FAX: (501) 562-4632

Please note
Hawkins
DH
5/19

May 18, 1993

Mr. David V. Hoppel, Plant Manager
Cedar Chemical Corporation
Post Office Box 2749
West Helena, Arkansas 72390

RE: NPDES Permit AR0036412; Consent Administrative Order LIS92-198

Dear Mr. Hoppel:

According to the Consent Administrative Order signed by both Cedar Chemical and this Department, construction is to begin on the stormwater retention system upgrade by June 1, 1993. Please notify us in writing of the date construction actually begins so we can keep your records correct and up to date. Failing to notify us of this date could result in a CAO schedule violation.

This is just a reminder letter to prevent such a violation.

If you have any questions, you can call me at (501) 570-2134.

Sincerely,

Leda F. Johnson

Leda F. Johnson
Administrative Assistant
NPDES Enforcement Section

C-75L

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
PHONE: (501) 562-6533
FAX: (501) 562-2541

Certified Mail
P 905 079 273

May 21, 1993

CSN 54-0068
PERMIT NO #
HAZARDOUS WASTE - SORT:
PERMIT/COMPLIANCE/SUPERFUNDS

John Wagner
Cedar Chemical Corporation
P.O. Box 2749
West Helena, AR 72390

RE: RECORDS REQUEST FROM MAY 5, 1993 CEI

Dear Mr. Wagner:

On May 5, 1993, the RECORDS AND PLANS NOT AVAILABLE sheet attached was signed and left with you. I have not, as of this date, received the information requested. The following is a list of documents requested:

1) Land Ban Restriction notifications for manifests CWMA648148 (dated 1-3-92), AR538277 (dated 1-28-92), and AR538278 (dated 1-28-92).

2) Completed waste profiles for drum numbers X03331, X04329, and X03322.

3) Hazardous waste tank inspection checklist.

4) Sample results from the first wash for the dichloronitrobenzene (DCNB) and 3,4-dichloroaniline (DCA) processes before being sent to the wastewater treatment plant. The contaminant of concern is 1,4,-dichlorobenzene (D027). This information was not requested on the original "Records and Plans Not Available" form.

Please be advised that you have ten (10) days from the receipt of this letter to submit the above requested information. Failure to respond will result in this case being referred to the Enforcement Branch Manager for consideration of escalated enforcement proceedings. These actions may include the assessment of civil penalties.

If you have any questions related to this matter, please feel free to contact me at (501) 570-2888.

Sincerely,

James Shumate
Hazardous Waste Inspector
Hazardous Waste Division

Attachment
c:Phillip Murphy, HWD

FACILITY Cedar Chemical

ID # ARD 990660649

DATE 5-5-93

RECORDS AND PLANS NOT AVAILABLE

Pursuant to Section 11,(a) & (b) of Arkansas Act 406 of 1979 as amended, and Section 3(5) of the Arkansas Hazardous Waste Management Code a generator, transporter, treatment, storage and/or disposal facility is required to maintain and make available all documents pertaining to the operation of the facility.

The following information was not furnished upon request:

1. 3 manifests (CWMA 648148 (1-3-92), ARS382777 & ARS382778 (1-29-92.) & Corresponding Land Band Restricta
2. Completed waste profiles X03331, X04329, & X03322
3. Tank ~~checklist~~ inspections for HW tank
4.
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12.
13.

Facility Representative

Title: Envir. Engr

Date: 5 May 93

James Shumate

James Shumate

ADPC&E Representative

Title Hazardous Waste Inspector

Date: 5-5-93

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
PHONE: (501) 562-6533
FAX: (501) 562-4632

May 21, 1993

Mr. John Wagner
Cedar Chemical Corporation
P.O. Box 2749
Hwy. 242 S.
West Helena, AR 72390

RE: Parking Lot

Dear Mr. Wagner:

ADPC&E reviewed the letter dated May 7, 1993, concerning the parking lot at Cedar Chemical. ADPC&E must remind Cedar that the level of 80 ppm of dinoseb in soil is **not** a clean closure level. The 80 ppm level is a level at which ADPC&E and Cedar Chemical determined that an imminent danger to human health and the environment exists and interim measures are required. ADPC&E expects immediate remedial actions for areas where the dinoseb level is above 80 ppm.

The total levels of endrin (250 ppb) and heptachlor (31 ppb) are above the TCLP levels of 20 ppb for endrin and 8 ppb for heptachlor found in §40 CFR 261.24, as adopted by ADPC&E Regulation No. 23. ADPC&E realizes that the total levels are not analogous to the TCLP levels, but the total levels indicate that the soils, beneath the parking lot, could exceed TCLP levels for hazardous waste.

ADPC&E considers the parking lot area to be a contaminated area that will possibly require remedial action. ADPC&E and Cedar have not established action levels for heptachlor and endrin. The action levels established may be lower than the levels detected in the soil under the proposed parking lot. It is possible that any construction at the site may have to be removed to accomplish remedial action.

Sincerely,

Joseph M. Hoover

Joe Hoover,
Enforcement Administrator
Hazardous Waste Division

JH:pm:cw wagnr.521

cc: Mike Bates, Chief, HWD
Phillip Murphy, HWD
Jerry Williams, HWD
David Hartley, HWD
Randall Oberlag, NPDES

ARKANSAS DEPARTMENT OF POLLUTION CONTROL & ECOLOGY

MEMORANDUM

TO : **Joe Hoover, Enforcement Branch Manager, HWD**

THROUGH : **Jim Rigg, Groundwater Branch Manager, HWD** J.R.

FROM : **David Hartley, Senior Geologist Groundwater Branch, HWD** DH

DATE : **May 12, 1993**

SUBJECT : **Cedar Chemical Corporation (CCC)**
CAO LIS# 91-118 (CAO)
Facility Investigation Work Plan, January 1993 (FIWP)

==========

I have reviewed the proposed FIWP and list my comments below. I would like to get the facility started in the investigation as soon as possible. However, a mutual agreement needs to be reached to establish when additional investigations should be implemented and a schedule for implementing additional work.

1.2.2 Sampling Requirements

a. The facility may propose to use parameters and constituents which are reliable indicators of contamination during subsequent monitoring events and investigations for the purpose of completing the groundwater quality assessment plan (GWQA). Any parameter or constituent and its intended use is subject to Departmental approval.

1.2.6.2 Soil Borings

a. The Department cautions CCC that only collecting soil classification samples from one monitoring well boring per investigation site may not be adequate to identify migratory pathways and define hydrogeologic conditions. Specific comments to each area are discussed in thier respective sections.

b. An option to reduce the number of classification samples is to document and save all cores. This will allow additional laboratory classification when needed without re-mobilizing drilling equipment.

c. CCC is advised that cores should obtained with appropriate core barrels. In the event that samples cannot be obtained with the selected core barrel, another appropriate method should be utilized.

d. The Department requests that boring logs include cohesion for consistency with previous investigations. Soil classification of each unit should be done in accordance with the Unified Soil Classification System.

1.2.6.3. Monitoring Well Installations

a. An on-site Arkansas Registered Geologist should be present Auring all monitoring well drilling activities. This individual is responsible for logging the borehole, proper identification of water bearing zones, selection of the screened interval, and choosing the appropriate type of well to construct. All boring logs should be signed and dated by this individual.

1.2.6.4. Monitoring Well Development

a. All water purged from the wells must be properly disposed of and not placed onto the ground or allowed to run-off into surface waters.

1.2.6.5 Groundwater Sampling

a. Include provisions for calibrating the portable field instruments with standard solutions and the frequency for doing so prior to use.

1.2.7 Decontamination Procedures

a. Briefly describe how the decontamination area will be constructed to prevent possible contamination to the area.

1.2.8 Investigation Derived Wastes

a. The fact that investigation derived wastes is not a hazardous waste does not necessarily demonstrate that the waste is suitable for on-site disposal. In my opinion, most of this waste is probably going to be non-hazardous by definition, but contaminated. However, contaminated soil (non-hazardous) is not suitable for on-site disposal, because it can affect water quality in runoff which CCC is presently having problems of noncompliance with their NPDES permit.

b. CCC should modify their NPDES permit to accommodate contaminated groundwater, which is not presently a permitted waste stream.

c. Any investigation derived waste stream intended to be disposed of in the NPDES facility must have written approval from the NPDES Division.

1.3.1 Groundwater Quality Assessment Plan (GWQAP)

a. Include provisions for evaluating the existing wells and piezometers to determine if they are suitable for use prior to sampling. Upon construction of new wells, all new and existing wells and piezometers should be surveyed by an Arkansas licensed surveyor, who should certify that the top of casing elevations are surveyed to the nearest hundredth of a foot in a horizontal plane.

    1. CCC is advised that previous well and piezometer reports reference top of ground surface elevations rather than top of casing elevation, which is where the measurement is made. Piezometers were certified only to the nearest tenth of a foot rather than the nearest hundredth of a foot, which is required. The Department has found no evidence of groundwater elevations being adjusted for the difference between ground surface and the top of the well casing. Considering this fact, the accuracy is highly questionable for the purpose of determining ground water flow direction.

    2. It is recommended that CCC immediately proceed with the well evaluation and surveying certification to avoid improper well placement prior to installing additional wells other than those at the biological treatment system, which are placed radially around the unit.

b. Describe the plugging and abandonment procedure to be followed. It was also recommended previously that CCC plug and abandon the old production well, which has not been used in several years.

c. The purpose of the GWQAP is to define the nature and extent (horizontal and vertical) of contaminants which emanated from the site. It is to be understood that this may involve the assessment of groundwater contamination beyond the facility boundaries with the installation of additional wells. This may be accomplished through a phased approach. CCC should propose to the Department a schedule to submit supplemental work plans, implement the work, and report the findings of the additional work.

d. Define what is considered evidence of contamination, which will require further implementation of the GWQAP. The Department concludes that the site has impacted groundwater quality, based upon the data submitted by CCC and obtained by the Department. The recommended criteria is listed below:

1. Parameters or constituents exceed EPA Primary Drinking Water standards and/or Secondary Drinking Water Standards and determined to be statistically significant, when compared to background water quality, utilizing an approved statistical method.

2. Statistically significant and deemed necessary by the Department. The facility may offer an explanation to the Department as to the cause for statistical significance and propose a course of action, which is subject to approval. The Department may split samples during any resampling or sampling event for consideration in making the determination.

3. For the purpose of the initial investigation, any organic constituent detected in downgradient wells that is not detected in upgradient wells is considered evidence of contamination. The facility may resample the affected well to verify the results. If the facility chooses not to resample, or if the resampling confirms contamination, this will form the basis for initiating additional investigations as deemed necessary by the Department.

4. The facility shall continue to make these determinations at least quarterly, until the nature and extent of contamination is determined. Each time this is reported, the facility shall propose to the Department a course of action. Upon approval, the facility shall implement the approved course of action.

e. The facility shall notify, in writing, property owners who are determined to be within or likely affected by any plume of ground water contamination that has emanated from the site. Any private wells on the affected properties shall be identified. The facility shall offer to sample such private wells or attempt to gain access to properties for the purpose of installing monitoring wells as necessary to complete the objectives of the GWQAP. CCC shall offer to plug any private well determined to be contaminated by this plume.

f. The GWQAP must include provisions for the installation of well clusters when necessary to define the vertical extent of contamination. Well cluster 6, which was installed in a previous investigation, indicates anomalous water levels (mounded or perched conditions). Contamination was also detected by ADPC&E in each screened interval. Therefore, the GWQA must also further characterize the hydrogeology and migratory pathways. It is possible that some of the existing piezometers are suitable for sampling as monitoring wells in the preliminary investigation. It is also noted that MW-6 exhibits higher TOC and TOX values than MW-6A, which indicates the possibility of a deeper plume of contamination that needs to be investigated.

1.3.2 Site #1

a. It is recommended that at least one well cluster be installed during this first phase of groundwater investigation. Previous reports by CCC (August 23, 1990, letter from Joe Porter) indicate that perched conditions or mounding in the ground water are likely at this unit.

b. The proposed sediment sampling consists of only one sample from the bottom of each pond. In my opinion, one sample from the bottom of each pond is not adequate to represent sediment contained in each pond.

c. TCLP analysis of the sediment may determine if sediment is characteristically hazardous, but is not adequate for evaluating all contaminants which could be impacting ground water quality. It is also noted that RCRA waste codes F002, F005, P066, P106, and U020 were historically allowed (Part A Application) for treatment in the impoundments, although unknown to be actually be treated. In addition, CCC states in the DOCC that API separator sludge has routinely been allowed to discharge into the treatment plant and has not characterized this waste. It is also noted in the previous pond sediment analysis that toluene, xylene, and ethylene dichloride were reported in most sediment samples. The analysis of samples from these SWMU's should be expanded to evaluate the potential for contamination to escape from the unit.

d. Investigate the tank which was previously used to store API separator sludge. No information has been presented to document the date of last use or the closure of the tank.

1.3.3 Site #2

a. At least one well cluster is recommended at or in the vicinity of this unit. A potential for perched conditions is noted in the previous data. In general, it appears that the greatest head loss in the perched interval is occurring in the central plant area (see comments to 1.3.1a). The selected locations may not represent adequate downgradient monitoring locations. It appears that one well location will be downgradient unless mounding is apparent at this SWMU.

b. I am concerned that biasing sampling results solely to relative chloride concentrations may not be suitable for all constituents of concern. It is noted that high concentrations of non-halogenated organics were also reported in the previous investigation (Ecology and Environment 1986). Station H-2 in that investigation reported high concentrations of non-halogenated solvents without the detection of chlorinated compounds. Volatile organics should be biased independent of chloride content.

c. Technical services should approve of the on-site chloride analysis proposal.

1.3.4 Site #3

a. Although the facility is under a separate CAO, any modifications to this SWMU must not interfere with the investigation required by this CAO unless specifically authorized by the Hazardous Waste Division.

1.3.5 Site #4

a. Existing groundwater monitoring locations are located a considerable distance from this site and may be influenced by other SWMU's. This part of the plant needs additional groundwater investigations at some point in time. The existing monitoring well locations will yield inconclusive data on the impact of this SWMU to groundwater.

1.3.6 Site #5

a. ADPC&E has discovered the as built construction diagram of this unit. I have estimated about 340 drums are potentially contained in the foundation, based upon this diagram. The contents of these drums are unknown. The drawing indicates that the vault (foundation) is five feet thick composed of a 6" concrete base, 9" of 4:1 bentonite/soil mixture, drums backfilled with sand, and 6" of concrete on the top. There is no apparent liquid removal capability in ;the design of the vault, although an apparent sump was observed adjacent to the foundation.

b. Angle hole sampling may encounter groundwater at the projected sampling depths. Perched groundwater conditions are not well defined in this part of the plant. It is noted that soils around this SWMU are heavily stained (yellow). If one considers the design of the vault, based upon the recently discovered construction details, the most likely areas for leakage is around the bottom of the perimeter of the foundation. In my opinion the proposed sampling plan is likely to produce inconclusive data, since surface contamination around the unit is apparently not considered to originate from the drum vault. The bottom of the drum vault is approximately 3' below ground surface. In my opinion, it would be better to either use a concrete core drill to drill an opening for sampling, or to excavate to the base of vault for visual observation and sampling.

1.3.7 Site #6

a. The Department is very much concerned with the possibility of an unidentified impoundment, that was used for disposal of dinoseb production wastes in 1972, as a continuing source of contamination. However, without an exact location it is difficult to focus the investigation. All existing information was reviewed and it is believed that this impoundment may be located west of the maintenance shop and north of the first drum disposal area. It is also believed that routine discharges, due to the lack of a discharge permit, may have led to more extensive contamination of surrounding soils.

1. The Site Characterization Report DCA Process Area, June 1990, revealed high concentrations of dinoseb (greater than the 80 ppm threshold value previously used) in borings B2-5 and C1-5. Concentrations exceeding 36,000 ppm were reported by CCC in C1-5 at 0-5' and greater than 18,000 ppm in the 5-10' interval.

2. A magnetometer survey was also conducted in this investigation. A major anomalie is evident in the northwest portion of the survey. An explanation of this anomalie has not been presented to the Department. It was reported that at least one trench was done within this anamalous zone. However, no information was reported from that particular trench. It was also reported that the data had been corrected for sources of magnetic noise.

3. Trench T-1 in this investigation is also noted to have high levels methoxychlor (93.76 ppm), 3,4DCNB (444.8 ppm), and other contaminants.

4. Information was submitted in a Part B permit application indicating a "highly contaminated area" in this vicinity.

b. CCC states that yellow staining does not necessarily represent high levels of contamination, yet proposes to investigate the presence of the unidentified impoundment based solely upon visual observations. A relationship between concentration and yellow staining has not been established at this time.

1.3.8 Site #7

a. CCC has no basis for deleting this SWMU from the investigation. The Department has established historical usage of this unit.

1.3.9 Site #8

a. Either provide data indicating that contamination observed by ADPC&E around the API separator was cleaned up (including verification analysis) or sample at this unit. All analytical data for disposal and clean-up must be submitted for further consideration.

1.4.3 Groundwater Sample Analysis & Quality Assurance

a. Table 1-4 lists different analytical methods than section 1.3.1 (GWQAP).

b. Table 1-6 lists different analytical methods than section 1.3.1.

3.4 Hazard Evaluation

a. Methoxychlor is known to have been manufactured on-site.

Appendix A is not included in the FIWP.

Appendix B

a. Although metal analysis proposes more than one analytical method, methods 200.7/6010 quantitation limits for arsenic, lead, and selenium exceed primary drinking water standards. All limits used must be less than primary drinking water standards.

Appendix D

a. The FIWP does not propose to investigate the SWMU's which were identified in the depositions obtained in the Wormald suit. CCC must investigate these SWMU's.

b. The FIWP does not propose any sampling specific to the various processes. The Department will coordinate with the facility during its production runs of the various processes. CCC should inform the Department of its scheduled production runs for this purpose.

General Comments

a. In my opinion, this workplan is somewhat vague as to how the data will be used to evaluate when corrective action is required for contaminated soil. For example, the relationship between soil contamination and resulting surface water contamination or groundwater contamination. The selection of action levels should be based upon the actual potential of intermedin transport.

b. In my opinion, this workplan does not adequately further characterize hydrogeologic conditions to the extent necessary to develop a corrective action plan for groundwater. However, additional phases can be required to accomplish this as determined necessary through the implementation of the GWQA.

c. The workplan does not establish the criteria for determining when additional investigations are necessary. I have suggested criteria for the GWQA. Criteria for soils should also be established.

CCCFIWP1

cc: Mike Bates, Chief, HWD
Phil Murphy, Engineer Technical Branch, HWD

Joe

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

May 7, 1993

Mr. Joe Hoover
Enforcement Branch Manager
Hazardous Waste Division
Arkansas Department of Pollution Control & Ecology
P.O. Box 8913
Little Rock, AR 72219-8913

Re: Facility Investigation Soil Samples

Dear Mr. Hoover:

Cedar Chemical recently conducted an interim measure investigation of the soil underlying the location of an employee parking lot adjacent to the new shower room facility (see enclosed map). This area coincides with the southwest section of Site 6 in the Facility Investigation Work Plan for CAO LIS 91-118. The preliminary results are enclosed, with a final report to follow.

The five locations were cored to 15 feet with a single composite taken from each five-foot interval. If an interval is missing from the enclosed table, it means that all parameters were non-detect for that interval. The 0-5 foot interval in each hole is identified as 1-1, 2-1, 3-1, etc. The 5-10 foot interval is 1-2, 2-2, 3-2, etc. Concentrations are shown in ppb. All levels for dinoseb are below the health-based closure limit of 80 ppm used as the standard in the three previous buried drum removal projects.

Based on the results of this investigation, Cedar has decided to proceed with the asphalting of the shower room parking lot area. This decision was made based on consideration for the employees, since the current gravelled lot conditions, especially during wet weather, are not acceptable.

Sincerely,

John Wagner

cc: Ms. Pat Crossley, Attorney, ADPC&E
Mr. Randal Oberlag, NPDES Enforcement, ADPC&E
Mr. Randal Tomblin, Organics Division President, Cedar
Mr. David Hoppel, Plant Manager, Cedar
Mr. Allen Malone, Attorney, Cedar


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SHOWER/BREAKROOM FACILITY
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SAMPLE	PARAMETER	CONSTITUENT	CONC. (UG/KG)
IMSB01-1	Pesticides/PCB	Aldrin	420
		Endrin	250 LOW
		4,4'-DDT	890
IMSB01-2	Volatiles	Acetone	200
	Semivolatiles	Dinoseb	68000 E
	Pesticides/PCB	gamma-BHC	3.4
IMSB01-2DL	Semivolatiles	Dinoseb	63000 D
IMSB02-1	Volatiles	Acetone	240
	Pesticides/PCB	4,4'-DDE	7.2
		Dieldrin	7.4
		4,4'-DDT	55
		Methoxychlor	600
IMSB02-2	Volatiles	Acetone	320 E
		Toluene	9
	Semivolatiles	3,4-Dichloroaniline	6700
		Dinoseb	2900
	Pesticides/PCB	beta-BHC	10
		Heptachlor	31 8
IMSB02-2DL	Volatiles	Acetone	200 D
IMSB02-3	Volatiles	Methylene Chloride	66
		1,2-Dichloroethane	10
	Semivolatiles	Propanil	8800
IMSB03-2	Volatiles	Methylene Chloride	12
	Semivolatiles	3,4-Dichloroaniline	10
		Phenol	1000
		Dinoseb	12000
	Pesticides/PCB	beta-BHC	37
		Heptachlor	4.9
		Aldrin	9.3
		4,4'-DDD	10
IMSB04-1	Pesticides/PCB	Dieldrin	56
IMSB05-1	Pesticides/PCB	Dieldrin	13
FBPOT	Volatiles	Chloroform	5
		Bromodichloromethane	11
		Dibromochloromethane	21
		Bromoform	28

1-3 & 3-3 Non-Detect For DNBP

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL & ECOLOGY
HAZARDOUS WASTE DIVISION
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
PHONE: (501)562-6533 FAX: 562-2541

March 26, 1993

Mr. John Wagner
Environmental Engineer
Cedar Chemical Corporation
West Helena Plant
Highway 242
West Helena, Arkansas 72390

RE: CONSENT ADMINISTRATIVE ORDER LIS 91-118

Dear Mr. Wagner:

The Arkansas Department of Pollution Control and Ecology (ADPC&E) has received and is currently reviewing the Facility Investigation Work Plan submitted by Cedar Chemical Corp. pursuant to the requirements of Consent Administrative Order LIS 91-118. This letter serves as notification to Cedar Chemical Corporation that ADPC&E will require approximately thirty (30) days from the date hereof to complete the review of the FIWP.

If you have any questions regarding this matter, please contact me immediately.

Sincerely,

Joseph M. Hoover
Manager, Enforcement Branch
Hazardous Waste Division

cc: Allen T. Malone
Apperson, Crump, Duzane & Maxwell
2110 One Commerce Square
Memphis, Tennessee 38103

Pat Crossley, Attorney, Legal Division, ADPC&E
David Hartley, Geologist, Groundwater Branch, HWD, ADPC&E
Phil Murphy, Engineer, Technical Branch HWD, ADPC&E

JH/cm797

Joe

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

March 4, 1993

Mr. Joe Hoover
Enforcement Branch Manager
Hazardous Waste Division
Arkansas Department of Pollution Control & Ecology
P.O. Box 8913
Little Rock, AR 72219-8913

Re: Facility Investigation Work Plan (FIWP)

Dear Mr. Hoover:

With the end of the 30-day review period of Cedar's FIWP approaching, I wanted to let you know that I will be out of the office until March 22.

If you need to speak to someone prior to that date, please call Allen Malone or, our plant manager, David Hoppel.

Sincerely,

John Wagner

cc: Allen Malone
David Hoppel

Joe

EnSafe Environmental and Safety Designs, Inc.
901/372-7962

5724 SUMMER TREES DR. • P.O. BOX 341315 • MEMPHIS, TN 38184-1315

January 29, 1993

Enforcement Branch Manager
Hazardous Waste Division
Arkansas Department of Pollution Control
and Ecology
8001 National Drive
Little Rock, Arkansas 72219

Dear Sir:

Environmental and Safety Designs, Inc. (EnSafe) is pleased to submit the revised Facility Investigation Workplan on behalf of Cedar Chemical Corporation for their West Helena plant. This report was developed in accordance with Consent Administrative Order No. LIS 91-118 and all revisions are based upon the comments submitted by ADPC&E in the Notice of Deficiencies letter and subsequent meetings at the ADPC&E office concerning the Preliminary Report.

If you have any questions concerning this report please contact Mr. John Wagner at the Cedar Chemical Corporation in West Helena. Mr. Wagner can be reached at (501) 572-3701.

Sincerely,

Jeff Bennett

Jeff Bennett
Environmental Scientist

Enclosure

cc: Ms. Pat Crossley, ADPC&E

JAN 18 1993

LAW OFFICES
APPERSON, CRUMP, DUZANE & MAXWELL
SUITE 2110
ONE COMMERCE SQUARE
MEMPHIS, TENNESSEE 38103-2519
901 / 525-1711
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CHARLES METCALF CRUMP
JERRE G. DUZANE
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ALLEN T. MALONE
PHILIP G. KAMINSKY
ROBERT L. DINKELSPIEL
HENRY L. KLEIN
ROSS B. CLARK II
JAMES F. RUSSELL
JOHN L. RYDER
THOMAS R. BUCKNER
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*TONI CAMPBELL PARKER
STEVEN N. DOUGLASS
RANDY S. GARDNER
KAREN R. WILLIAMS
*ELIZABETH ANN CAMP
**ALAN G. CRONE
STEPHANIE GREEN COLE
WILLIAM L. ZOCCOLA
LINDA D. SCHOLL

*ALSO ADMITTED IN MISSISSIPPI
**ALSO ADMITTED IN ARKANSAS

SAMUEL RUBENSTEIN
OF COUNSEL

CHARLES W. METCALF, 1840-1924
WILLIAM P. METCALF, 1872-1940
JOHN W. APPERSON, 1896-1985

EAST OFFICE:
SUITE 100
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January 18, 1993

Mr. Joseph M. Hoover
Manager
Enforcement Branch
Arkansas Department of Pollution
Control & Ecology
Hazardous Waste Division
8001 National Drive
P. O. Box 8913
Little Rock, Arkansas 72219-8913

VIA FEDERAL EXPRESS

Re: Cedar Chemical Corporation CAO LIS No. 91-118

Dear Mr. Hoover:

With regard to your letter of December 15, 1992 and your meeting with John Wagner and Jeff Bennett on January 5, 1993, this is to confirm that I will be happy to review with you or your counsel the transcripts of depositions which have been taken in Cedar Chemical Corporation's pending suit against Wormald U.S., Inc., as successor to The Ansul Company, in the Chancery Court of Phillips County. There are only a few deposition exhibits which are under seal pursuant to a Protective Order that was entered in the case; however, I have obtained permission from Wormald's counsel to give ADPC&E's attorneys access to these exhibits. I will be happy to meet with Pat Crossley or if she is on maternity leave, any other member of ADPC&E's legal staff to review these depositions in your offices at any convenient time.

This letter is also intended to clarify Cedar's intent in including my memorandum of August 26, 1992 at Tab A in the Preliminary Report; to provide additional information which was developed in subsequent discovery in the Wormald suit; and to confirm the understandings reached in the meeting on January 5, 1993 concerning your letter of December 15, 1992.

First of all, it should be understood that Table 2-1 in the Preliminary Report reflects only products which Cedar has produced at the West Helena Plant since it acquired the Plant in

1986. The information concerning these products was derived from Cedar's own records. Of course, some of these products (such as propanil, permethrin and cypermethrin) were also produced by former owners or operators at the Plant. Little documentation exists, or if it does exist, is not readily available, regarding production activities at the Plant which were carried out by Eagle River Chemical Corporation or by Vertac, the former owners in the 1970's - at least as to products which were produced by these companies but never produced by Cedar. Thus, for example, although Section 2.2.1 of the Preliminary Report reflects that dinoseb was produced at the Plant in 1972, dinoseb is not among the products listed in Schedule 2-1.

My report at Tab A in the Preliminary Report was intended to help fill this data gap by disclosing information developed in the course of Cedar's suit against Wormald with regard to dinoseb production and any other activities which occurred on the Plant site prior to Cedar's acquisition of the Plant, particularly when Ansul controlled the Plant. (As you probably know, we have asserted in the suit against Wormald, and the Court has determined, that Wormald is responsible for the clean up costs associated with certain wastes which were deposited on the site as a result of the production of dinoseb when the site was controlled by Ansul in 1972.)

In addition to the depositions referred to in my memorandum of August 26, 1992, additional depositions were subsequently taken by counsel for Wormald in September 1992. These later depositions provided information about other products which were produced on the Plant site by former owner/operators during the 1970's which are not identified in Table 2-1. While I do not think that the CAO actually contemplated that Cedar would carry out investigations and report on activities prior to its acquisition of the Plant unless documented in records available to Cedar, I am nevertheless supplementing Table 2-1 by enclosing a list of these additional products and related information in the attachment to this letter. I understand from the deposition testimony in the Wormald case and from my subsequent investigation that production of methoxychlor and DCA by former owners or operators on the plant site in 1974-1975 and the production of propanil from 1974 to 1977 involved disposal of aqueous wastes into the ponds which were closed in 1978. None of the other products listed in the enclosure would have involved such waste disposal.

I am satisfied that the attached list, together with Table 2-1 in the Current Conditions Report, is a complete list of all products manufactured at the West Helena Plant in commercial

quantities since it was first operated by Helena Chemical Company in 1970. If there is any information in ADPC&E files indicating that products other than those on these lists were ever produced on the site, please let me know.

Other than the waste streams referred to above with respect to propanil, DCA and methoxychlor production in the early 1970's, the only other wastes which were disposed of in the ponds which were closed in 1978 were wastes which were transported from Helena Chemical Company's West Helena formulating facility during the period beginning either in 1974 or 1975 and ending in 1977. These wastes are believed to have resulted from the clean out of formulating vessels and would be expected to have contained a variety of pesticide contaminants - which seems to be borne out by the 1986 soil sampling results which are included in the Current Conditions Report. Helena Chemical Company has been named third-party defendant by Wormald in the pending suit and discovery in that case may identify more specifically, if possible, these waste constituents.

Your letter (Paragraph 5) indicates that ADPC&E files disclose additional wastes which were placed in these ponds about which Cedar has no information. Obviously, for purposes of cost recovery actions under the Arkansas Remedial Action Trust Fund, we would be interested in learning everything possible about wastes which were placed in these closed ponds and persons who were involved in such disposal activities, including, of course, any information known concerning Helena Chemical Company's use of the ponds in the early 1970's. Accordingly, I would like to meet with you in your offices to review the files which are referred to in your letter.

Finally, it is my understanding that the thirteen numbered paragraphs of your NOD letter of December 15, 1992 were resolved (to the extent a resolution was required) as follows:

1. The word "wetland" will be added at the appropriate place in Figure 2-1. It is understood that no Flood Plain Map for the site is available from FEMA. It was agreed that Cedar would furnish a narrative of the 100 year flood plain and the elevations at the facility in lieu of a map. Since the meeting, however, John Wagner was able to obtain a flood plain map from the Department of Housing and Urban Development which includes the site, and this map will be included in an appendix to the FIWP. In addition, as agreed, a map showing the location of Outfall 002 at the

Mississippi River, including the line connecting the Outfall to the Plant will be provided in the appendix.

2. Cedar will provide process flow diagrams for each of those processes listed in Table 2-1 for which the biological treatment system has been used for aqueous waste disposal.

3. Table 2-3 is deemed sufficient.

4. It is understood that the comment in Paragraph 4 of your letter is being addressed pursuant to the CAO entered in LIS No. 92-198. Table 2-1 will be revised to delete waste streams which were permitted for handling through the biological treatment system, but which in fact were not so handled and were sent off site for disposal in permitted facilities.

5. The comments in Paragraph 5 are addressed above. After we have an opportunity to review the files referred to in Paragraph 5 of your letter, we may be able to shed some additional light on the subject.

6. The unavailability of a map from FEMA is addressed in Paragraph 1 above.

7. Cedar agrees that characterization of the hydrogeologic setting will be better defined as a result of implementation of the FIWP.

8. There are four documented occurrences of accidental breaks in piping lines:

a. Trestle by Kelly's -release into a ditch; no information as concerning when this occurred or how much released.

b. Trestle on Harry Stephens' property June 1985 - release into a ditch; not known how much released.

c. Release caused by break in line caused by Hill & Hill Construction in April 1989 - release into a ditch - the quantity unknown.

d. Break in line in connection with utility pole installation on other side of levee in 1992 - no release.

It is understood that the FIWP will address and justify Cedar's position that no further remedial action is required with respect to these spill locations.

9. Cedar's removal of the piping which presently transfers process waste water to the treatment system will proceed in accordance with a general construction permit issued pursuant to the CAO in LIS No. 92-198. Cedar will inspect for leaks in the course of the removal and submit an inspection report to ADPC&E pursuant to implementation of the FIWP under the referenced CAO.

10. It is understood that Cedar has not collected any sludge out of the old separator, and sludge from the new separator will be disposed of off-site - not into the biological treatment system. The FIWP will provide for soil sampling where spills occurred on the dike.

11. It is understood that the areas indicated in Exhibit C to the Memorandum which is included at Tab A of the Report will be addressed in the FIWP. (In that regard, I am enclosing a copy of a memo from ADPC&E files which was obtained during discovery in the Wormald case indicating the presence of a "temporary holding pond" on the site in July 1972, which was apparently used for dinoseb waste water. This may be identical to the partially closed impoundments which were referred to in the Holcomb deposition testimony.)

12. The owner of the property northwest of the Site, across the railroad tracks, has been determined to be Alan Hargraves, who resides at 125 Neil Road, Helena, Arkansas.

13. Cedar understands that it is obligated to submit quarterly progress reports to ADPC&E as required by the CAO in LIS No. 92-198.

It was also agreed that Cedar will have a two week extension, to February 4, 1993, in which to submit the second draft of its FIWP.

Let me know if you have any addition or correction to the above understandings. Also, if you are of the opinion that more information concerning the additional products identified in the enclosure is critical to development of a sound FIWP, please let me know promptly. In discussing the subject with Cedar's

consulting firm, ENSAFE, they are of the opinion that information contained in the Current Conditions Report is more than sufficient for development of a FIWP.

I will contact you in the near future to set up an appointment to review ADP&CE's files referred to above.

Sincerely yours,

Allen T. Malone

ATM:jw

Enclosures

cc: Ms. Pat Crossley
Mr. John Wagner
Mr. Jeff Bennett

PRODUCTS BELIEVED TO BE PRODUCED IN COMMERCIAL QUANTITIES
AT WEST HELENA SITE FROM 1970-1986
WHICH ARE NOT IDENTIFIED IN TABLE 2-1

1. Products Produced By Cedar Chemical Corporation Which Were Inadvertently Omitted From Schedule 2-1:

Diphone C for Yorkshire Chemicals plc - produced in 1988 pursuant to an unsuccessful production run which resulted in early termination of the contract.

RP15 (intermediate for production of the pesticide Tackle) - produced in relative short runs in 1986 as well as RP10 (Tackle) also produced for Rhone-Poulenc. Products and process were substantially identical to CTBL (Cobra) which was produced for another contract customer, as identified in Schedule 2-1.

ADPA-60 - This is a new product which is currently being produced for Albright & Wilson; start up occurred subsequent to preparation of the Preliminary Report.

Perborate - This is also a new product which is currently being produced for DuPont; start up occurred subsequent to preparation of the Preliminary Report.

2. Products Produced Prior To Cedar's Ownership Of The Site:

Dinoseb - in 1972

Methoxychlor (produced 1974-1975) allegedly by a joint venture comprised of Eagle River Chemical Corporation and Chemform Corporation located in West Virginia.

DCA - experimental runs from 1974-1975.

Lannate (for DuPont) 1975-1979

NBE (for Mobil Chemical) from approximately 1975 to 1979

Thiofanox (for Diamond Shamrock) from approximately 1976 to 1978

BSC (Benzene Sulphonyl Chloride) - produced from approximately 1979-1980

DRA (also known as FLO) produced for Arco from 1980-1984

2,4 DTBP (another alkylated phenol) produced for Schenectady Chemical in 1984-1985 similar to Isonox 132, as identified Schedule 2-1

OLOA 378 - An oil lube additive produced for Chevron in 1984

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 National Drive
Little Rock, Arkansas 72209

air 5

July 6, 1972

MEMORANDUM TO: Mr. S. Ladd Davies, Director
Mr. Jarrell Southall, Chief-Air Division

Synopsis

Eagle River Chemical Company, West Helena, Arkansas has been manufacturing chemical herbicides since September 15, 1971. Investigations conducted by Department personnel have determined that present process methods used by this company cause the release of air and water contaminants.

Eagle River Chemical Company has not requested permit to operate equipment capable of causing air and water contaminants. Such operation is in violation of this Department's permit requirements.

Report

Process methods at Eagle River Chemical Company, West Helena, Arkansas were inspected June 23, 1972 by the undersigned in response to an air pollution complaint received by this Department. This company is owned by Ansul Company, Marinette, Wisconsin, and has been operating at this location since September 15, 1971.

Eagle River Chemical Company manufactures technical grade DNBP (Dinitrobutylphenol), a soybean pre-emergence and Propanil a rice herbicide. Both are produced in batch type processes. DNBP is the claimed product of a liquid phase separation process resulting from a series of exothermic (heat yielding) chemical reactions whose reactants are ortho-sec-Butylphenol, sulfuric acid, sodium nitrate, methyl alcohol, and water. The resulting unclaimed product consists of sodium nitrate, dissolved phenols, sodium bisulfate, nitric acid, and water. Unclaimed product called "waste water" is collected by Great Lakes Chemical Company, El Dorado, Arkansas. This Department has granted permit to Great Lakes Chemical Company for disposal of collected "waste water" by deep injection.

While producting DNBP gasses are emitted to the atmosphere through a 6" diameter stack connected with the reaction vessel. Mr. Bruce Davey - Plant Manager, has submitted that these gasses are the product of nitrating reactions and are almost 100% Nox. Eagle River Chemical Company has not applied for permit from this Department to operate equipment capable of emitting contaminants to the atmosphere.

oduct and "waste water" spillage has saturated the soil around espective holding tanks. Mechanical aggitation of this saturated rea by mobile machinery has dispersed and mixed the spillage with soil throughout company grounds. During the time of this investigation, company grounds other than those around holding tanks were covered with finely divided orange dust (dried product and "waste water" spillage ingredients mixed thoroughly with soil) that easily became airborne with minor mechanical aggitation. This dust produced a burning sensation in the nasal area when breathed. Spillage from holding tanks and a recent reaction vessel rupture was ditched openly across company grounds. Most of the spillage was lifted into a temporary holding pond. However, some spillage was excaping into a local drainage ditch. Freshwater used to cool exothermic reaction vessels also entered this drainage ditch and combined with spillage. Combination produced an orange liquid effluent observed leaving company property via drainage ditch.

A saturating rainfall would have caused accumulated product and "waste water" ingredients contained in dusts on plant grounds to be carried into the same drainage ditch. No permit to operate equipment capable of releasing water contaminants has been requested by this company.

Calvin Ed White
Ecologist II

John Gardner
Sanitarian I

EW/msd
cc: Mr. John A. Mitchell
Mr. Jim Shell

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

HEARING/MEETING REGISTRATION

NAME (PLEASE PRINT LEGIBLY)	ADDRESS STREET	CITY	STATE	ZIP	ORGANIZATION REPRESENTED
Joe Hoover	8001 Natl	LR	AR	72219	ADPC&E
Phillip Murphy	8001 NAEI	LR	AR	72219	ADPC&E
David Hartley		"			"
JOHN WAGNER	HWY 242 SOUTH	W. HELENA		72390	CERCLA/SARA
Jeff Bennett	2754 Summer Trees,	Memphis,	TN	38134	EnSafe Env Leader

Public hearing/meeting on Vertac Chemical Date 1-5-93

Location ADPC&E HWD Page 1 of 1

8349

Cedar Chemical

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
PHONE: (501) 562-6533
FAX: (501) 562-2541

December 29, 1992

Mr. John Wagner
Environmental Engineer
Cedar Chemical Corporation
P.O. Box 2749
West Helena, Ar 72390

RE: PARKING LOT CONSTRUCTION AT CEDAR CHEMICAL

Dear Mr. Wagner:

The Department has received your letter dated December 12, 1992, regarding the proposed parking lot to be built in the southwest corner at Cedar Chemical. The Department does not consider the construction of the parking lot to constitute any type of corrective measure for the contamination that may be in that area. Therefore, the area shall remain a part of the investigation to be carried out under the facility investigation workplan. Cedar Chemical will be expected to sample the soils beneath the parking lot during implementation of the workplan. Should removal of contaminated soils be the selected corrective measure for the parking lot area, the parking lot would likely have to be removed in order to excavate the soils beneath it.

If there are any questions, please do not hesitate to call.

Sincerely,

Joseph M. Hoover
Manager, Enforcement Branch
Hazardous Waste Division

PM:cw wag12.29

CC: Phillip Murphy, HWD
Jerry Williams, HWD
David Hartley, HWD
Randall Oberlag, NPDES Enforcement

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
HAZARDOUS WASTE DIVISION
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
PHONE:(501)562-6533 FAX:562-2541

9H

CERT MAIL RECEIPT NO. P 905 078 984

December 15, 1992

Mr. John Wagner
Environmental Engineer
Cedar Chemical Corporation
West Helena Plant
Highway 242
West Helena, Arkansas 72390

RE: Cedar Chemical Corporation
CAO LIS# 91-118
Facility Investigation Preliminary Report Approval

Dear Mr. Wagner

Department personnel have completed review of the Facility Investigation Preliminary Report for the Cedar Chemical facility in West Helena. The report continues to be deficient in several areas, however, ADPC&E grants conditional approval of the report providing correction of the following deficiencies are included as tasks in the Facility Investigation Work Plan (FIWP):

1. A map depicting all wetlands, flood plains water features, natural and manmade drainage patterns, and NPDES outfalls was not included and it was stated that the map would be submitted upon receipt from the Federal Emergency Management Agency (FEMA).

2. Submit process flow diagrams with a mass balance for each product manufactured. This is necessary for the Department to review each process and to evaluate sampling locations for each process, which is a task in the FIWP. These diagrams should be sufficient in detail to depict all chemicals in the process feed, all chemicals and process waste removed for any purpose, elementary neutralization and all tankage used in each process for any purpose.

3. Submit regional geologic maps to support the hydrogeologic investigation, which is to be expanded in the FIWP. This can be submitted in the FIWP or in one of the reports generated during implementation of the FIWP.

4. It is of much concern that a number of products manufactured at the facility have wastes treated in the biological treatment system, which are not reflected in the current NPDES permit. The current NPDES permit specifies the following

waste streams: Propanil, Pyrethroids, and Sectagon. Table 2-1 specifies the following additional processes are treated within the biological treatment system: Methylthiopinacolone Oxime, Orfom D-8, Orfom C0300, Dichloronitrobenzene, 3,4-Dichloroaniline, Methyl 2-Benzimidazole Carbamate, Methyl Ethyl Sulfide, and Isonox 132. Cedar Chemical must list all process waste streams entering wastewater treatment units. The NPDES permit lists pyrethroids as a waste stream treated in the NPDES treatment unit. In Table 2-1 the pyrethroid waste streams are listed as a hazardous waste disposed of off-site. Cedar Chemical must present information on the current NPDES and Air permits in regard to the products manufactured to permitted waste streams.

5. ADPC&E records indicate that the following wastes from on-site production were managed in the three closed ponds: Anisole, Methoxychlor, O Dichloronitrobenzene, Dichloroaniline, propanil, Nitrachlormethylbenzoate, Methomyl, Fluchloralin, Thiofanox, Nitraline, Permethrin, MSMA, and DSMA. These ponds were used for disposal and were not permitted to discharge by EPA or ADPC&E. Other than Ph adjustment, no treatment is documented for these units. Clarification is needed.

6. Figure 2-6 is not included in the report, however it is noted that the facility states that it will be sent upon receipt from FEMA.

7. It may be construed that the facility is implying that the alluvial aquifer is confined, by the statement bounded above and below the clays. This will be determined in the FIWP.

8. Provide dates and locations of recorded spills including any information available in the FIWP with a proposed course of action for SWMU 75 NPDES Outfall 002 Piping and SWMU 76 Production Units Wastewater Piping. ADPC&E disagrees with the statement in the preliminary report that leaks from the off-site pipeline for the treated process water should not affect surface water since there have been few violations of the NPDES permit. The NPDES permit allows dilution in the Mississippi River. Water leaked from the pipeline to the surface water would not benefit from dilution. Cedar Chemical indicated the process water discharge was almost causing toxicity in the Mississippi River. Releases of the treated water to a stream with little or no water would almost certainly have adverse effects.

9. Cedar Chemical must coordinate with the Hazardous Waste Division when removing the piping to avoid duplication of work for the purposes of the FIWP.

10. Provide information including waste analysis from the clean-up of AOC #3 Ditch Adjacent to API Separator. Cedar Chemical is advised to characterize the API Separator sludge prior to disposing into the Biologoical Treatment System (BTS).

11. Include the areas disclosed in Exhibit C to be investigated in the FIWP.

12. Cedar Chemical must identify ownership of the property located northwest of the facility just across the railroad tracks.

13. Cedar Chemical must report on a quarterly basis, the results of the Toxicity Reduction Evaluation (TRE) required by NPDES for the storm water outfall due to acute toxicity.

In addition to addressing the above listed deficiencies in the FIWP, this conditional approval of the report is given providing provisions are made for Department staff to view and copy all depositions recorded during Cedar Chemicals inquiries pertaining to historical site operations. It is of much concern that the depositions in Appendix A Memorandum of Historical Site Operations do not elaborate on waste management practices during the time that the facility did not have a discharge permit.

The expected submittal date for the FIWP is thirty (30) days from the date of receipt of this letter. If I may be of assistance please do not hesitate to call.

Sincerely,

Joseph M. Hoover
Manager, Enforcement Branch

JH/cm648

cc: Pat Crossley, Legal Division, ADPC&E
Phil Murphy, Engineer, Technical Branch, HWD, ADPC&E
David Hartley, Inspector, Enforcement Branch, HWD, ADPC&E
Allen T. Malone - Apperson, Crump, Duzane & Maxwell
2110 One Commerce Square
Memphis, Tennessee 38103

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

December 7, 1992

Mr. Joe Hoover
Enforcement Branch Manager
Hazardous Waste Division
ADPC&E
P.O. Box 8913
Little Rock, AR 72219-8913

Re: Plant Site Construction

Dear Mr. Hoover:

In the early spring of 1993, Cedar Chemical plans to begin construction of a one and one quarter acre, asphalt parking lot and entrance gate, adjacent to the already completed shower room, in the southwest corner of the West Helena plant site.

This construction will require the re-location of portions of the stormwater drainage ditch which it will cover. The re-location will be in accordance with CAO LIS 92-198, and a blanket NPDES construction permit currently in the approval process.

The parking lot will be constructed with a liner in order to act as a cap for the soil, by preventing downward movement of surface water and upward movement of possible contamination. Its drainage will be segregated from the rest of the plant.

The Work Plan to address the assessment of other areas of the plant, under CAO LIS 91-118, is complete and will be submitted upon approval of the Preliminary Report.

Sincerely,

John Wagner

cc: Ms. Pat Crossley
Mr. Allen Malone

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
MEMORANDUM

DATE: November 18, 1992

TO: Mark Bradley, P.E., Permits

FROM: Randal K. Oberlag, P.E., Enforcement Engineer

SUBJECT: Cedar Chemical CAO #92-198

I discussed with you a few weeks back my negotiations with Cedar Chemical and the need for us to work closely with permits on the modifications that will be performed under Cedar's Corrective Action Plan. The CAO has now been finalized and there is a schedule (CAO p. 5, attached)for Cedar to adhere to under the plan. One point of negotiation revolved around the fixed date for them to begin construction after they apply for a construction permit (or permit mod.). They did not want a date when they were to begin if we hadn't given them the OK to proceed. As a compromise I left the date in the schedule but also tied it to a date after which we issue a construction permit. We normally don't agree to this, but I felt it was necessary in this instance. It would be in our best interest to have some preliminary meetings with relevant in-house staff to determine our needs and to develop a strategy to keep Cedar on schedule. When you have had a chance to assign this to an engineer, please let me know.

cc: Joe Williford
Phil Murphy

indicated in the above paragraph 2. Interim discharge limitations for Outfall 002 shall be given to allow the Permittee to continue operating in ordinary course of business and will be effective upon completion of Task 17 of Exhibit "B" and continue until the date of completion of Task 21 as indicated on Exhibit "B".

4. The Permittee shall comply with the schedule attached herein as Exhibit "B", Corrective Action Schedule, prepared on behalf of the Permittee by ECO, Inc. The Permittee shall also maintain compliance with the following included schedule:

a.	Submit plans and specifications for construction of stormwater retention system upgrade	May 1, 1993
b.	Apply for permit modification	May 1, 1993
c.	Commence construction of stormwater retention system upgrade	June 1, 1993 or *
d.	Submit plans and specifications for construction of upgrade/modification of treatment facility	September 1, 1993
e.	Complete construction and cease discharge at Outfall 001	October 1, 1993 or **
f.	Commence construction treatment plant upgrade	November 1, 1993 or *
g.	Complete construction treatment plant upgrade	March 1, 1994 or **
h.	Attain compliance with the final effluent limits	June 1, 1994

* - indicates " 30 days after construction permit issued by ADPC&E"

** - indicates " 120 days after commencement of construction"

5. In compromise and full settlement of the civil penalties for all reported violations of the effluent limitatio1ns occurring up to the date this agreement is signed by the Director, the Permittee agrees to pay to ADPC&E the total sum of Eighty Thousand Dollars ($80,000.00) as a voluntary civil penalty. Payment of the penalty shall be made in eight equal monthly

ARKANSAS DEPARTMENT OF POLLUTION CONTROL & ECOLOGY

MEMORANDUM

TO : Joe Hoover, Enforcement Branch Manager, HWD

THROUGH : **Jim Rigg, Ground Water Branch Manager, HWD** J.R.

FROM : **David Hartley, Senior Geologist Ground Water Branch, HWD** DH

DATE : **November 6, 1992**

SUBJECT : **Cedar Chemical Corporation**
CAO LIS# 91-118
Facility Investigation Preliminary Report September 1992
Response to Second NOD

==========

I have reviewed the referenced document, which was submitted in response to the July 13, 1992, Notice of Deficiencies (NOD) and recommend approval with consideration to conditions listed in this memo. The facility has failed to present all of the information needed, which is recommended to be included as tasks in the Facility Investigation Work Plan (FIWP).

Although it may not be appropriate to include all items listed in this memo, I feel that these issues are significant in the investigation of the facility.

Maps

1. A map depicting all wetlands, flood plains water features, natural and man made drainage patterns, and NPDES outfalls was not included and it was stated that the map would be submitted upon reciept from the Federal Emergency Management Agency (FEMA).

2. ~~Although figure 2-1 was revised in response to the first NOD, there is not enough detail at the actual production units to illustrate exactly where production wastes flow. Perhaps the facility needs to~~ submit process flow diagrams ~~for~~ with a mass balance for each product manufactured~~, to fulfill this requirement~~. This is necessary for the Department to review each process and to evaluate sampling locations in each process, which is ~~to be~~ a task in the FIWP. These diagrams should be in sufficient detail to depict all chemicals in the process feed, all chemicals and process wastes removed for any purpose including re-use, emmission control wastes, elementary neutralization and all tankage used in each process for any purpose.

3. ~~The facility has not~~ submitted regional geologic maps to support the hydrogeologic investigation, which is to be expanded during the FIWP. This can be submitted in the FIWP or during one of the reports generated during implementation of the FIWP.

2.2 Site History

Although it may not be appropriate to include this section as a condition of approval, I have researched Department records and have determined that certain waste management practices in the site history should be clarified. The primary issue is in regard to the way that process waste waters were managed at the facility prior to the issuance of NPDES Permit AR0036412, which was effective on February 22, 1977. From the time that production began in approximately 1971, until the issuance of the referenced NPDES permit, no discharge of waste water or stormwater was allowed from the facility by ADPC&E or the USEPA.

1. In a 1974 aerial photograph, it appeared that two approximately 200 X 200 foot retention ponds had recently been constructed. Records indicate that these were constructed for process waste water, as evidenced by several EPA memos in 1975. It is also observed in this air photo that the entire site had been bermed to retain any runoff. Water was observed in the two retention ponds and also approximately half of the plant site. The management of process wastewater and other wastes before this time could not be documented, but is believed to be similar. A release of Dinoseb resulting in a fish kill was documented by ADPC&E in 1972.

2. A January 16, 1975, EPA memo indicates that the facility plans to construct a 400 X 25 foot limestone lined pit for acid neutralization in the near future. It is also noted that Helena Chemical Company (HCC) was hauling water to the facility for disposal. It was reported that the lagoons are unlined and constructed of a sandy-loam soil type. Seepage was occurring through the dikes into a ditch at a rate of 5-10 gallons per minute, with large globules of a heavy brown oily material flowing along the bottom of the ditch. The two retention ponds were observed to be in use for production waste water in addition to the HCC discharges. The plant was manufacturing Methoxychlor and Propanil at the time of the site visit.

3. A NPDES permit application was filed on May 27,1975.

4. A July 14, 1975, letter to EPA indicates that Methoxychlor and Propanil were manufactured at the facility for the last two years and construction had began to add Methomyl and Nitralin processes.

5. The March 30, 1976, permit revision indicates that the contaminated storm water was retained in a newly constructed pond with no discharge.

6. An April 21, 1976, ADPC&E record of communication (ROC) indicates the facility was to use the new pond to store process waste water and storm water until the new treatment system is operational, projected to be July 1, 1977. This new pond is believed to be the vacant lot adjacent to the present biological treatment system.

7. A July 28, 1976, ADPC&E ROC indicates that the facility had excavated the contaminated soil of a previous operator who manufactured Dinoseb and had replaced the soil with 3-4 feet of clean soil. Most of the production area had been paved. Contaminated runoff was being stored in the recently constructed pond with no discharge.

8. A May 24, 1976, ADPC&E ROC indicates that the facility was concerned about the toxicity of the waste water and was running out of storage capacity in the retention ponds. ADPC&E had advised the facility not to discharge until a permit was issued.

Table 2-1 Process Descriptions

1. All waste streams have not been accounted for, as previously requested. All waste streams from each process must be accounted for including where each waste is destined for treatment or disposal. This may be a task in the FIWP.

2. Describe all wastes treated on-site, locations of treatment units, and processes which are treated. Include all elementary neutralization units and etc.. This may be a task in the FIWP.

3. It is of much concern that a number of products manufactured at the facility have wastes treated in the biological treatment system, which are not reflected in the current NPDES permit. The current NPDES permit specifies the following waste streams: Propanil, Pyrethroids, and Sectagon. Table 2-1 specifies the following additional processes are treated within the biological treatment system: Methylthiopinacolone Oxime, Orfom D-8, Orfom CO300, Dichloronitrobenzene, 3,4-Dichloroaniline, Methyl 2-Benzimidazole Carbamate, Methyl Ethyl Sulfide, and Isonox 132. Cedar Chemical must list all process streams entering waste water treatment units. The NPDES permit lists pyrethroids as a waste stream treated in the NPDES treatment unit. IN table 2-1 the pyrethroid waste stream are listed as a hazardous waste disposed off-site.

2.2.2 Solid and Hazardous Waste

1. See comments in Section 2.2.

2. ADPC&E records indicate that the following wastes from on-site production were managed in the three closed ponds: Anisole, Methoxychlor, O Dichloronitrobenzene, Dichloroaniline, Propanil, Nitrachlormethylbenzoate, Methomyl, Fluchloralin, Thiofanox, Nitraline, Permethrin, MSMA, and DSMA. These ponds were used for disposal and were never permitted to discharge by EPA or ADPC&E. Other than pH adjustment, no treatment is documented for these units. Clarification is needed.

2.3.1 Physiography

1. Figure 2-6 is not included in the report, however it is noted that the facility states that it will be sent upon receipt from FEMA. This may be included in the FIWP.

2.3.2 Regional Geology

1. The facility must continue its search for regional geologic maps in support of named stratigraphic units (Jackson Clay) as a task in the FIWP.

2.3.4 Site Hydrogeology

1. It may be construed that the facility is implying that the alluvial aquifer is confined, by the statement bounded above and below by clays. This will be determined in the FIWP.

2.4 Summary of Past Environmental Permits

1. See the comments listed in section 2.2 of this memo.

2. It is recommended that the facility must present information on the current NPDES and Air Permits in regard to the products manufactured to permitted waste streams as a task in the FIWP. See comments to table 2-1.

3.1.2 Surface Water

1. Surface water contamination will also be addressed in the FIWP.

3.2.8 SWMU's 69-71 Inactive Ponds 1,2,&3

1. See comments to section 2.2.

3.2.12 SWMU 75 NPDES Outfall 002 Piping

1. Provide dates and locations of recorded spills including any information available in the FIWP with a proposed course of action. for

3.2.13 SWMU 76 Production Units Wastewater Piping

1. Provide dates and locations of recorded spills including any information available in the FIWP with a proposed course of action. for

2. Coordinate with the Hazardous Waste Division when removing the piping to avoid duplicative work for the purpose of the FIWP. must

3.2.17 Area of Concern #2: Wetland Adjacent to BTS

1. See comments to section 2.2. This area is believed to have received process waste water and storm water. Depositions do not elaborate on the management of waste waters during the period of time that the facility did not have a discharge permit (1971-1977).

3.2.18 AOC #3 Ditch Adjacent to API Separator

1. Provide information including waste analysis from this clean-up. The facility is advised to characterize the API Separator sludge prior to disposing into the BTS, which will be a task in the FIWP.

Appendix A Memorandum of Historical Site Operations

1. It is of much concern that these depositions do not elaborate on waste management practices during the time that the facility did not have a discharge permit, as discussed in section 2.2 of this memo. There is no assurance that all relevant facts from the depositions have been disclosed.
2. Include the areas disclosed in Exhibit C to be investigated in the FIWP.

3. In my opinion there is evidence that all process wastewaters were disposed of on the site during 1971-1977 period, as previously discussed. It is unknown as to what was the method of disposal of other process wastes during this period.

CCCPR2

cc: Mike Bates
Phillip Murphy

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

MEMORANDUM

TO: Joe Hoover, Enforcement

FROM: Phillip Murphy

Through: Jerry Williams, HWD
David Hartley, HWD

DATE: October 1, 1992

SUBJECT: Cedar Chemical Description of Current Conditions

1. Cedar does not identify ownership of property located north west of Cedar across the railroad track.

2. The storm water sump should include the surrounding soils since the sump has been dredged on several occasions. The soils dredged from the sump were deposited on the soils surrounding the sump.

3. Cedar states that leaks from the off-site pipeline for the treated process water should not affect surface water since there have been few violation of the NPDES permit. The NPDES permit allows dilution in the Mississippi River. Water leaked from the pipeline to the surface water would not benefit from dilution. Cedar indicated the process water discharge was almost causing toxicity in the Mississippi River. Release of the treated water to a stream with little or no water would almost certainly have adverse effects.

4. The Department needs to ensure the inclusion of off-site soils in the investigation from the storm water run-off.

5. The DOCC should include the areas identified in the memo from Cedar's attorney in the recommendations for investigations section as areas of concern.

6. The report does not mention the Toxicity Reduction Evaluation (TRE) required by the NPDES for the storm water outfall due to acute toxicity.

Parking Lot

Joe

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

September 30, 1992

Mr. Joe Hoover
Enforcement Branch Manager
Hazardous Waste Division
ADPC&E
P.O. Box 8913
Little Rock, AR 72219-8913

Re: Facility Investigation Progress Report - Third Quarter 1992

Dear Mr. Hoover:

In accordance with Consent Administrative Order (CAO) LIS 91-118, Task V:B of the Scope of Work for a Facility Investigation, this progress report is submitted for the third quarter of 1992.

Subsequent to a meeting between representatives from Cedar Chemical, Ensafe and PC&E on August 21, the second revision to the Facility Investigation Preliminary Report was submitted to PC&E on September 14 for final approval.

At the August 21 meeting, identification was requested of the "wellhead" located by the back gate of Cedar's West Helena facility. This is a pump and associated piping for the sanitary wastewater from a septic tank that collects the back breakroom.

Future quarterly progress reports required by the CAO will be submitted within thirty days following the end of each quarter.

Sincerely,

John Wagner

John Wagner

cc: Ms. Pat Crossley
Mr. Allen Malone

Joe

SEP 16 1992

EnSafe Environmental and Safety Designs, Inc.

901/372-7962

5724 SUMMER TREES DR. • P.O. BOX 341315 • MEMPHIS, TN 38184-1315

September 14, 1992

Enforcement Branch Manager
Hazardous Waste Division
Arkansas Department of Pollution Control
and Ecology
8001 National Drive
Little Rock, Arkansas 72219

Dear Sir:

Environmental and Safety Designs, Inc. (EnSafe) is pleased to submit the revised Facility Investigation Preliminary Report on behalf of Cedar Chemical Corporation for their West Helena plant. This report was developed in accordance with Consent Administrative Order No. LIS 91-118 and all revisions are based upon the comments submitted by ADPC&E in the Notice of Deficiencies letter dated July 13, 1992 and the meeting at the ADPC&E office on August 21, 1992.

It should be noted that Figure 2-6: Flood Plain Map is not included and will be forwarded to all report recipients as soon as it is received from the Federal Emergency Management Agency. The additional SWMUs proposed by the ADPC&E were added to the report as SWMUs or areas of concern; however, the following proposed SWMUs were not added as separate units;

UNIT	REASON
NPDES Outfall #1	This unit is part of SWMU #59 - the Stormwater Drainage System.
Wastewater Tank near compressor house at the treatment ponds	The wastewater tanks at the treatment ponds are already SWMUs #61 and 63.
Soils around stormwater pond	Discussion and investigation of these materials will be included with SWMU #60.

Revisions are currently being made to the Facility Investigation Workplan for submittal to ADPC&E on October 15, 1992. If you have any questions concerning this report please contact Mr. John Wagner at the Cedar Chemical Corporation in West Helena. Mr. Wagner can be reached at (501) 572-3701.

Sincerely,

Jeff Bennett
Environmental Scientist

Enclosure

cc: Ms. Pat Crossley, ADPC&E
Mr. John Wagner, Cedar Chemical Corp.
Mr. Allen Malone, Apperson, Crump, Duzane & Maxwell

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

September 8, 1992

Mr. Frank Esry
NPDES Branch
ADPC&E
P.O. Box 8913
Little Rock, AR 72219-8913

Re: CSN 54-0068; NPDES Permit No. AR0036412

Dear Mr. Esry:

This is Cedar Chemical's written response to your letter of September 2, regarding the latest NPDES inspection. Specific items are as follow:

1. COD excursions: We have had five discharges since the referenced May violation and all have been within the regulated limit for COD, and all other parameters. The four excursions to which you refer have already been addressed in a Toxicity Reduction Evaluation, a Corrective Action Plan and a proposed Consent Administrative Order, all of which are being handled through Randal Oberlag in the NPDES Enforcement Group. The ultimate goal of all of the above is the abandonment of the outfall at which these violations occurred.

2. South clarifier: The clarifier went down on August 24th, Mr. Browning was here on the 25th, and it was back in operation on the 26th. This is a piece of mechanical equipment that will periodically require maintenance, and we are very responsive to its continuing operation. The last time that it was down just happened to be when Mr. Browning last inspected Cedar in January 1992. The north clarifier continued to operate during this period.

The other issue to come up during the inspection was Phillip Murphy's June 25th letter to Chuck Bennett. The yellow staining is being assessed and remediated under CAO LIS 91-118. I believe the correct reason for backfilling areas of the plant was to bring sloping terrain to flat and useable condition, and, in the process, stained soil was covered. Secondly, it is our belief, and the belief of our consultant, Bruce Shackleford, that our current analytical method for total pesticide does detect dinoseb. Bruce will be following up with more detailed information this week.

Please call if you have any other questions.

Sincerely,

John Wagner

cc: Joe Hoover
Joe Williford
Nat Nehus
Randal Oberlag

Joe

August 28, 1992

COPY

Ms. Pat Crossley
Attorney
Arkansas Department of Pollution
Control & Ecology
8001 National Drive
P. O. Box 8913
Little Rock, Arkansas 72219-8913

Re: In the Matter of: Cedar Chemical Corporation,
West Helena, Arkansas, LIS 91-118

Dear Ms. Crossley:

At a meeting with Joe Hoover, David Hartley, and Phillip Murphy on August 21, 1992, Cedar resolved all differences regarding the most recent NOD with respect to Cedar's Current Conditions Report required under the referenced CAO. According to the notes that I took at the meeting, the NOD was resolved as follows:

1. There are two parcels shown on the plat southeast of the Hill and Hill property which do not indicate owners. These need to be determined and added to the plat.

2. A separate CAD map will be prepared showing waterflow directions marked by arrows, mainly along ditches and from the outfall. In addition a separate attachment indicating that the property is not included in the 100 year flood plain needs to be included.

3. Location of the known plugged (abandoned) line and a transite line that was removed will be added to the CAD map.

4. Three previous monitoring wells plus production well previously used will be located on the CAD map.

5. Jeff said he is still looking for additional geologic maps. The Arkansas Geologic Commission is supposedly sending him something.

6. I need to prepare a memo to be included in the report of what we have learned in discovery in the Wormald suit regarding products produced and waste disposal activities on the site during 1971-73.

Also,the specific VOC's and solvents referred to in Table 2.1 will be identified.

7. Only MSDS for "contaminants of concern" as determined by Ensafe will be included.

8. Moot - To be addressed in the FIWP.

9. Moot - To be addressed in the FIWP.

10. Moot - Air pathways to be addressed in the FIWP.

11. Moot - Comment regarding Dinoseb will either be addressed in the FIWP or in conjunction with a proposed Corrective Action Schedule which is currently under review by the NPDES enforcement section.

12. Any apparent noncompliance with the requirements of 40 C.F.R. 265(j) with regard to Cedar's two hazardous waste storage tanks will be included in the Current Conditions Report.

13. Additional information regarding processes generating solid wastes at the facility will be included.

14. Same as item 6.

15. Same as item 5.

16. It was agreed that table 3.1 will be supplemented to show which of the SWMU's have actually been removed or otherwise altered.

17. The report will also discuss the current status of the additional proposed SWMUs.

18. Moot - Will be covered in the FIWP.

19. Moot - The Department has located the drilling logs for the monitoring wells installed in accordance with the previous CAO.

It was further agreed that a new Current Conditions Report, revised in accordance with the forgoing, will be submitted to the Department by Ensafe on Cedar's behalf by not later than September 15, 1992.

Please review the above list with Joe Hoover to be sure that it accords with his recollection of the agreements reached at the meeting. If there is any disagreement, he should contact John Wagner at Cedar's West Helena Plant or Jeff Bennett at ENSAFE in Memphis promptly.

Sincerely yours,

Allen T. Malone

ATM/lt
cc: Mr. Joe Hoover
Mr. John Wagner
Mr. Jeff Bennett

CEDAR CHEMICAL CORPORATION

CORRECTIVE ACTION SCHEDULE

AUGUST 17, 1992

Environmental Consulting Operations
ECO, INC.
"Integrating ECOnomy and ECOlogy"

CEDAR CHEMICAL CORPORATION
CORRECTIVE ACTION SCHEDULE

INTRODUCTION

The Cedar Chemical Corporation (CCC) West Helena, Arkansas facility is in the process of developing a Corrective Action Plan (CAP) to address NPDES permit violations for COD at outfall 001. CCC is currently conducting a Toxicity Reduction Evaluation (TRE) for outfall 001 . Initially, a "Tier II" TRE schedule was designed to address toxicity at outfall 001. This schedule has been modified to also include corrective actions for excessive COD concentrations at outfall 001. The resulting Corrective Action Schedule (CAS) has been designed as a time-table to coordinate efforts for the implementation of corrective actions associated with toxic effluent and COD violations at outfall 001. The schedule lists and describes 16 "tasks". Each task involves either 1) the implementation of corrective actions (example: boiler blowdown diversion) or 2) an evaluation of the effectiveness of corrective actions (example: post-diversion bioassays).

It is the intent of CCC to perform the tasks in the CAS in the aggressive pursuit of the elimination of NPDES permit violations. Because of the magnitude of such an undertaking and the existence of numerous"unknowns", a "phased" approach will be applied such that the specific scope of work for each successive "Task" may be determined by the results of the preceding task. Consequently, the specific criteria within each task will be subject to modification, if findings necessitate. The major focus of the corrective action strategy will be to eliminate outfall 001 within the time frame specified. The specifics of how this goal will be achieved, will continue to evolve throughout the course of corrective action implementations and evaluations. As more information becomes available, a more specific definition of alternatives for corrective action will be developed.

The consequences of the abandonment of outfall 001 (Tasks 1-12), in terms of the compliance status of outfall 002, cannot be predicted. Provisions to address a noncompliance scenario have been developed, in Tasks 13-16. A more specific strategy and schedule, based on the findings of Tasks 1-12, will be developed at that time.

CCC is currently operating under a Consent Administrative Order (CA0 - LIS 91-118) to assess and remediate Solid Waste Management Units (SWMU) at the facility. It is vital that the CAO, the TRE, and the CAP are integrated in a manner to avoid any conflict of goals and objectives of each of the three projects. Variables beyond the control of CCC which may create temporary delays in adherence to the CAS include the following:

1) construction interruption due to wet weather

2) laboratory/consultant schedule conflicts

3) construction crew schedule conflicts

4) additional corrective action requirements by the regulatory authority

5) evaluation and installation of wastewater treatment components

6) unknown chemical, biological, and physical variables that may be encountered throughout the course of corrective action implementation.

CORRECTIVE ACTION SCHEDULE

TASK 1: Reconstruction of Storm Water Holding Pond

To be implemented within 14 days after receiving written approval of the TRE Plan from ADPC&E.

TARGET DATE: APRIL 24, 1992
DATE INITIATED: APRIL 2, 1992
DATE COMPLETED: APRIL 11, 1992

TASK 2: Bioassay Retests Meeting EPA Test Acceptance Criteria

Within 14 days after completion of Task 1, an initial battery of concurrent *D. pulex* and fathead minnow tests will be initiated for:

Boiler Blowdown
Cooling Water Condensate
Outfall 001
Outfall 002

TARGET DATE: MAY 15, 1992
DATE INITIATED: MAY 5, 1992
DATE COMPLETED: MAY 8, 1992

TASK 3: Diversion of Boiler Blowdown From Outfall 001 to Outfall 002

This diversion will take place within 60 days after completion of Task 2 only if bioassay reports show that outfall 001 toxicity persists. The initiation of this Task is contingent upon approval by ADPC&E regarding the need for a construction permit.

TARGET DATE: JULY 18, 1992
ADPC&E APPROVAL: JULY 17, 1992
DATE INITIATED: JULY 18, 1992
DATE COMPLETED: JULY 27, 1992

TASK 4: Post Boiler Blowdown Diversion Bioassay Tests

Within 14 days after completion of Task 3, a battery of concurrent *D. pulex* acute bioassays, fathead minnow acute bioassays, and COD analyses will be initiated for:

Boiler Blowdown
Cooling Water Condensate
Outfall 001
Outfall 002

ANTICIPATED DATE OF TEST INITIATION: AUGUST 12, 1992
(Currently scheduled with Laboratory)

ANTICIPATED DATE OF TEST COMPLETION: AUGUST 13, 1992
ANTICIPATED VERBAL RESULTS : AUGUST 14, 1992
ANTICIPATED REPORT COMPLETION: AUGUST 21, 1992

TASK 5: Follow-up and Confirmation Bioassay Tests

Within 14 days after receiving bioassay reports for Task 4, a battery of concurrent *D. pulex* acute bioassays, fathead minnow acute bioassays, and COD analyses will be initiated to confirm the results of Task 4 for:

Boiler Blowdown
Cooling Water Condensate
Outfall 001
Outfall 002

TARGET DATE: SEPTEMBER 9, 1992
(Currently scheduled with Laboratory)

ANTICIPATED DATE OF INITIATION : SEPTEMBER 9, 1992
ANTICIPATED DATE OF COMPLETION: SEPTEMBER 10, 1992
ANTICIPATED VERBAL RESULTS : SEPTEMBER 11, 1992
ANTICIPATED REPORT COMPLETION: SEPTEMBER 18, 1992

TASK 6: Wastestream Diversion Evaluation

An evaluation will be initiated to characterize the quality and quantity of the aqueous wastestreams that are targeted for diversion from outfall 001 to outfall 002. The primary objective will be to identify and evaluate potential alternatives for wastewater handling to achieve a permanent abandonment of outfall 001. An analysis of storm water runoff will be performed utilizing Technical Release (TR-55). An evaluation of the biological treatment system will be conducted to examine existing flow and chemical data, design capacity, and operation and maintenance. A Corrective Action Plan (CAP) will be developed from the findings of these activities.

ANTICIPATED DATE OF INITIATION : AUGUST 20, 1992
ANTICIPATED DATE OF COMPLETION: SEPTEMBER 21, 1992

TASK 7 : Selection and Implementation Of Alternative To Assure Complete Abandonment Of Outfall 001

Subsequent to the completion of Task 6, an alternative will be selected to assure the complete abandonment of outfall 001. It is anticipated that the design and construction of wastewater handling and retention structures may be necessary to increase the hydraulic capacity of the outfall 002 treatment system. During the interim, an application for a construction permit and, if necessary, an NPDES permit modification will be submitted to ADPC&E.

The complete success and the time frame of the permanent abandonment of outfall 001 will be contingent upon several variables, as follows:

1) the selection and implementation of an alternative for wastewater handling
2) rainfall amount and frequency
3) the treatment efficiency and associated discharge rate of the biological treatment system

Infrequent short-term discharges through outfall 001 may be necessary during periods of excessive rainfall prior to the implementation of an alternative for wastewater handling. The enlargement of the storm water sump will be considered as a temporary measure to prevent any outfall 001 discharge until a permanent means of abandoning outfall 001 can be implemented. The time required to accomplish this will be dependent upon the necessity and/or issue date of a construction permit.

ANTICIPATED DATE OF INITIATION : SEPTEMBER 21, 1992
ANTICIPATED DATE OF SUMP ENLARGEMENT: OCTOBER 14, 1992
ANTICIPATED DATE OF ALTERNATIVE IMPLEMENTATION:
MARCH 22, 1993

TASK 8 : Post-Sump Enlargement Bioassay Tests

Within 14 days after completion of the storm water sump enlargement, a battery of concurrent *D. pulex* acute bioassays, fathead minnow acute bioassays, and COD analyses will be initiated for:

Boiler Blowdown*
Cooling Water Condensate
Storm Water Retention Structure
Outfall 002

*** CCC is currently investigating the possibility of recycling or discharging the boiler blowdown to the Helena POTW. Bioassays will not be conducted for the boiler blowdown if it is not conveyed through the CCC WWTP.**

ANTICIPATED DATE OF INITIATION : OCTOBER 28, 1992
ANTICIPATED DATE OF COMPLETION: OCTOBER 29, 1992
ANTICIPATED VERBAL RESULTS : OCTOBER 30, 1992
ANTICIPATED REPORT COMPLETION: NOVEMBER 6, 1992

TASK 9: Follow-up and Confirmation Bioassay Tests

Within 14 days after receiving bioassay reports for Task 8, a battery of concurrent *D. pulex* acute bioassays, fathead minnow acute bioassays, and COD analyses will be initiated to confirm the results of Task 8 for:

Boiler Blowdown*
Cooling Water Condensate
Storm Water Retention Structure
Outfall 002

*** CCC is currently investigating the possibility of recycling or discharging the boiler blowdown to the Helena POTW. Bioassays will not be conducted for the boiler blowdown if it is not conveyed through the CCC WWTP.**

ANTICIPATED DATE OF INITIATION : NOVEMBER 18, 1992
ANTICIPATED DATE OF COMPLETION: NOVEMBER 19, 1992
ANTICIPATED VERBAL RESULTS : NOVEMBER 20, 1992
ANTICIPATED REPORT COMPLETION: DECEMBER 4, 1992

TASK 10 : Post-Alternative Implementation Bioassay Tests

Within 14 days after the implementation of an alternative to permanently abandon outfall 001, a battery of concurrent *D. pulex* acute bioassays, fathead minnow acute bioassays, and COD analyses will be initiated for:

Boiler Blowdown*
Cooling Water Condensate
Storm Water Retention Structure
Outfall 002

*** CCC is currently investigating the possibility of recycling or discharging the boiler blowdown to the Helena POTW. Bioassays will not be conducted for the boiler blowdown if it is not conveyed through the CCC WWTP.**

ANTICIPATED DATE OF INITIATION : APRIL 5, 1993
ANTICIPATED DATE OF COMPLETION: APRIL 6, 1993
ANTICIPATED VERBAL RESULTS : APRIL 7, 1993
ANTICIPATED REPORT COMPLETION: APRIL 14, 1993

TASK 11: Follow-up and Confirmation Bioassay Tests

Within 14 days after receiving bioassay reports for Task 10, a battery of concurrent *D. pulex* acute bioassays, fathead minnow acute bioassays, and COD analyses will be initiated to confirm the results of Task 10 for:

Boiler Blowdown*
Cooling Water Condensate
Storm Water Retention Structure
Outfall 002

*** CCC is currently investigating the possibility of recycling or discharging the boiler blowdown to the Helena POTW. Bioassays will not be conducted for the boiler blowdown if it is not conveyed through the CCC WWTP.**

ANTICIPATED DATE OF INITIATION : APRIL 26, 1993
ANTICIPATED DATE OF COMPLETION: APRIL 27, 1993
ANTICIPATED VERBAL RESULTS : APRIL 28, 1993
ANTICIPATED REPORT COMPLETION: MAY 5, 1993

TASK 12: Tier II TRE Report

Within 30 days after completion of all Tier II bioassay testing (Tasks 2, 4, 5, 8, 9, 10, and 11) a "Tier II TRE Report" will be developed to address the toxicological impact of the complete diversion of outfall 001 wastewater to outfall 002.

TARGET COMPLETION DATE: JUNE 5, 1993

TASK 13 : Toxicity Identification Evaluation (TIE)

In the event toxicity persists at outfall 002 subsequent to completion of Tasks 1-12, a TIE will be initiated for outfall 002. The TIE approach and methodology will be discussed in the Tier II TRE Report.

ANTICIPATED DATE OF INITIATION : JUNE 30, 1993
ANTICIPATED DATE OF COMPLETION: DECEMBER 31, 1993

TASK 14 : Tier III, IV, and V TRE Report

In compliance with the requirement specified on page 4 of PART III of the existing NPDES permit AR0036412, a TRE Report will be prepared as follows:

"o. the permittee shall conduct the TRE in accordance with the approved schedule and, upon completion, the permittee shall prepare a report which contains, at a minimum:

(1) the source of the toxicity (e.g. constituents; class of toxicants, suspected industrial contributors, etc.);

(2) results of any treatability studies conducted;

(3) discussion of alternative treatment or management techniques to reduce or eliminate toxicity;

(4) selection of the appropriate course of action to be followed by the permittee;

(5) an implementation schedule for making changes to reduce toxicity.

TASK 15: Implementation of Toxicity Reduction Corrective Actions

In compliance with the requirement specified on page 4 of PART III of the existing NPDES permit AR0036412, corrective actions for toxicity reduction will be implemented as follows:

"p. Upon completion of the TRE, the permittee shall select an appropriate course of action to reduce or eliminate the toxicity, and shall submit an application for modification of this permit, including a proposed schedule for accomplishment. Additionally, if recommended solutions include construction or modification of the treatment system, an application for a construction permit shall be submitted within 90 days of the completion of the TRE.

TASK 16 : Follow-up and Confirmation Bioassays

Subsequent to the completion of Task 15, a biomonitoring program will be established for outfall 002 to monitor the effectiveness of the toxicity reduction corrective actions.

CHARLES W. METCALF, 1840-1924
WILLIAM P. METCALF, 1872-1940
JOHN W. APPERSON, 1896-1985

CHARLES METCALF CRUMP
JERRE G. DUZANE
JOHN B. MAXWELL, JR.
ALLEN T. MALONE
PHILIP G. KAMINSKY
ROBERT L. DINKELSPIEL
HENRY L. KLEIN
ROSS B. CLARK II
JAMES F. RUSSELL
JOHN L. RYDER
THOMAS R. BUCKNER
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RANDY S. GARDNER
KAREN R. WILLIAMS
**PATRICIA B. STEGEMANN
***ROBERT E. YORK
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August 10, 1992

Ms. Pat Crossley
Attorney
Arkansas Department of Pollution
Control & Ecology
8001 National Drive
P. O. Box 8913
Little Rock, Arkansas 72219-8913

Re: In the Matter of: Cedar Chemical Corporation,
West Helena, Arkansas, LIS 91-118

Dear Ms. Crossley:

This confirms that the meeting referred to in your letter of August 7, 1992 has been postponed one week to August 21, 1992 at 10:00 a.m. by agreement between John Wagner and Joe Hoover. Please be sure that Mike Bates and each other person who had been requested to attend the meeting is aware of the new date. In addition, if as you indicated in our telephone conversation today, Steve Weaver intends to take over this file from you, it might be a good idea for him to attend as well if that would be convenient.

I look forward to seeing you on August 21, 1992.

Sincerely yours,

Allen T. Malone

ATM:jw

cc: Mr. John Wagner